

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: P331963-830

Luminaire Tested: **S123DIP-S775D365U830-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331963-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S775D365U830-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4225.9 lumens
Efficiency: N/A
Efficacy: 120.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Direct

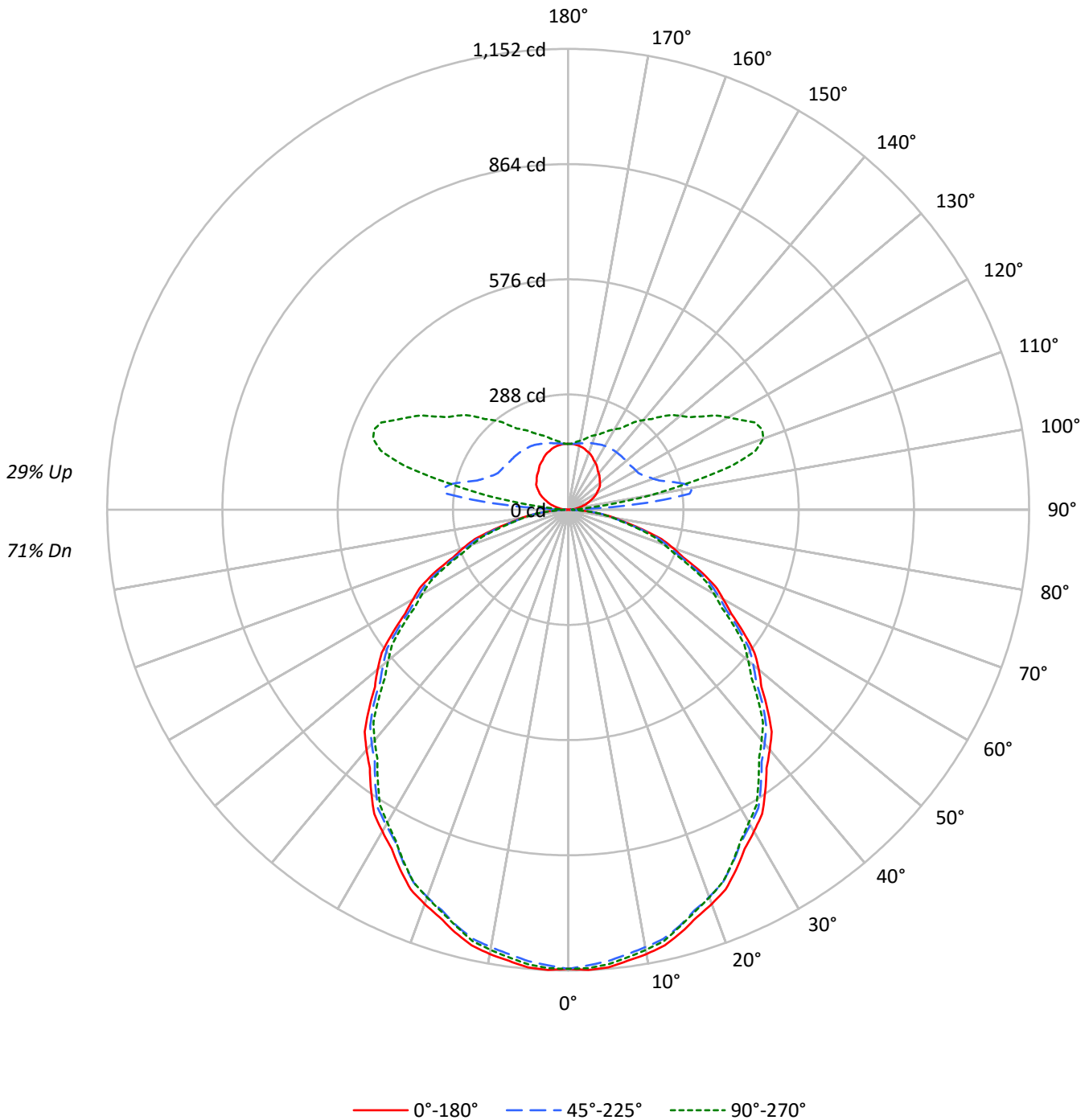
Input Watts (W): 35
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	112	112	112	112	106	106	106	106	95	95	95	85	85	85	75	75	75	71
1	102	98	94	90	97	93	89	86	83	80	78	74	72	70	66	65	63	59
2	93	85	79	74	88	81	75	71	73	68	64	65	62	59	58	56	53	50
3	85	75	67	61	80	71	64	59	64	59	54	58	53	50	52	48	45	42
4	78	67	58	52	73	63	56	50	57	51	46	51	47	43	46	42	39	36
5	72	59	51	45	67	57	49	43	51	45	40	46	41	37	42	37	34	31
6	66	53	45	39	62	51	43	38	46	40	35	42	37	32	38	33	30	27
7	61	48	40	34	58	46	39	33	42	36	31	38	33	29	34	30	27	24
8	57	44	36	30	54	42	35	29	38	32	28	35	30	26	32	27	24	22
9	53	40	33	27	50	39	31	26	35	29	25	32	27	23	29	25	22	20
10	50	37	30	25	47	36	29	24	33	27	22	30	25	21	27	23	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12355	12355	12355
5°	12413	12241	12327
10°	12329	12136	12211
15°	12186	11999	12021
20°	12016	11802	11813
25°	11792	11569	11545
30°	11543	11309	11225
35°	11284	11037	10893
40°	11011	10732	10568
45°	10712	10456	10201
50°	10412	10114	9833
55°	10021	9760	9466
60°	9623	9347	9052
65°	9276	8899	8621
70°	8759	8387	8013
75°	8006	7719	7390
80°	7221	6912	6856
85°	6336	6101	5854



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.1	2.6
10°-20°	305.3	7.2
20°-30°	451.0	10.7
30°-40°	526.8	12.5
40°-50°	529.6	12.5
50°-60°	465.2	11.0
60°-70°	346.6	8.2
70°-80°	197.5	4.7
80°-90°	58.0	1.4
90°-100°	91.6	2.2
100°-110°	259.3	6.1
110°-120°	255.1	6.0
120°-130°	203.5	4.8
130°-140°	160.4	3.8
140°-150°	119.7	2.8
150°-160°	83.4	2.0
160°-170°	49.0	1.2
170°-180°	16.0	0.4
0°-30°	864.4	20.5
0°-40°	1391.1	32.9
0°-60°	2385.9	56.5
0°-90°	2987.9	70.7
90°-120°	605.9	14.3
90°-150°	1089.5	25.8
90°-180°	1238.0	29.3
0°-180°	4225.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1148	1148	1148	1148	1148	
5°	1149	1143	1133	1142	1141	109
15°	1094	1089	1077	1084	1079	308
25°	993	987	974	975	972	457
35°	859	852	840	834	829	537
45°	704	699	687	675	670	543
55°	534	532	520	510	504	478
65°	364	359	349	342	338	359
75°	192	189	186	181	178	206
85°	51	50	49	48	47	56
90°	1	4	8	9	10	4
95°	11	37	198	58	39	12
105°	39	57	268	468	424	41
115°	68	85	205	449	515	68
125°	95	112	191	346	406	84
135°	111	133	188	285	329	86
145°	127	145	186	234	258	80
155°	144	156	180	205	214	66
165°	158	162	173	183	186	44
175°	164	164	166	168	168	16
180°	165	165	165	165	165	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8
2.5°	1151.7	1151.0	1150.4	1149.6	1149.0	1147.6	1145.7	1143.8	1141.8	1139.9	1141.6
5°	1148.8	1147.6	1146.6	1145.5	1144.3	1142.6	1140.2	1137.8	1135.4	1132.9	1135.2
7.5°	1137.6	1136.4	1135.3	1134.3	1133.1	1131.3	1128.8	1126.3	1123.8	1121.3	1123.3
10°	1128.0	1126.9	1125.9	1124.7	1123.7	1121.7	1118.8	1116.0	1113.1	1110.3	1112.3
12.5°	1115.4	1114.5	1113.6	1112.7	1111.7	1109.9	1107.3	1104.6	1101.9	1099.2	1100.7
15°	1093.5	1092.6	1091.7	1090.9	1090.0	1088.2	1085.2	1082.4	1079.6	1076.8	1078.5
17.5°	1068.0	1066.9	1065.7	1064.6	1063.5	1061.5	1058.7	1055.7	1052.9	1050.1	1051.3
20°	1049.0	1047.7	1046.5	1045.2	1043.9	1041.7	1038.9	1036.0	1033.2	1030.3	1031.2
22.5°	1027.7	1026.4	1025.1	1023.8	1022.5	1020.4	1017.6	1014.7	1011.9	1009.0	1009.7
25°	992.9	991.6	990.2	988.9	987.6	985.5	982.6	979.8	976.9	974.1	974.3
27.5°	955.5	954.2	953.0	951.7	950.5	948.3	945.2	942.2	939.1	935.9	936.1
30°	928.7	927.6	926.5	925.4	924.3	922.2	919.2	916.1	913.0	909.9	909.9
32.5°	901.8	900.4	898.9	897.5	896.1	894.2	891.7	889.4	887.0	884.7	883.4
35°	858.7	857.3	856.0	854.7	853.4	851.3	848.4	845.6	842.7	839.9	838.6
37.5°	814.4	812.8	811.1	809.4	807.8	805.5	802.6	799.7	796.7	793.9	792.3
40°	783.6	782.3	781.0	779.7	778.4	776.2	773.1	770.1	766.9	763.8	762.1
42.5°	752.8	751.3	749.8	748.4	746.9	744.6	741.5	738.4	735.4	732.3	730.6
45°	703.7	702.8	701.9	701.1	700.1	698.3	695.4	692.6	689.8	686.9	684.3
47.5°	654.9	653.7	652.3	651.1	649.8	647.8	645.2	642.5	639.8	637.2	634.5
50°	621.8	620.7	619.5	618.5	617.4	615.4	612.6	609.7	606.8	604.0	601.6
52.5°	587.0	586.3	585.5	584.8	584.0	582.1	579.1	576.1	573.1	570.0	568.0
55°	534.0	533.7	533.5	533.3	533.0	531.5	528.7	525.8	522.9	520.1	517.7
57.5°	483.4	482.7	481.9	481.2	480.4	478.9	476.6	474.3	472.0	469.8	467.6
60°	447.0	446.9	446.7	446.4	446.2	444.8	442.1	439.5	436.9	434.2	432.3
62.5°	414.7	414.2	413.6	413.0	412.5	410.9	408.2	405.6	402.9	400.3	398.3
65°	364.2	363.1	361.9	360.9	359.8	358.2	355.9	353.7	351.6	349.4	347.6
67.5°	310.7	309.7	308.8	307.7	306.8	305.5	303.9	302.2	300.5	298.9	297.3
70°	278.3	277.0	275.7	274.4	273.1	271.7	270.4	269.1	267.8	266.5	264.9
72.5°	244.4	243.4	242.4	241.5	240.5	239.3	237.8	236.3	234.8	233.3	232.0
75°	192.5	191.5	190.7	189.8	189.0	188.1	187.5	186.8	186.2	185.6	184.5
77.5°	146.5	146.0	145.5	145.1	144.5	143.9	143.1	142.3	141.6	140.7	140.0
80°	116.5	115.8	115.2	114.5	113.9	113.3	112.8	112.4	112.0	111.5	111.3
82.5°	87.3	87.1	87.0	86.8	86.7	86.6	86.5	86.4	86.3	86.2	85.9
85°	51.3	50.9	50.4	50.0	49.6	49.4	49.4	49.4	49.4	49.4	48.9
87.5°	20.6	20.3	19.9	19.5	19.1	18.9	18.9	18.9	19.0	19.0	18.8
90°	0.7	1.3	2.0	3.0	3.7	4.3	5.4	6.3	7.4	8.3	8.0
92.5°	4.1	6.1	9.0	11.5	14.3	19.2	28.0	42.3	56.4	51.2	38.6
95°	11.3	12.3	16.0	21.7	30.3	43.3	71.6	121.2	175.9	197.6	160.2
97.5°	19.3	19.6	22.5	27.4	36.0	50.0	77.1	133.0	224.1	306.1	327.4
100°	24.7	25.0	27.3	32.0	40.0	53.0	76.3	125.5	213.2	315.5	381.1
102.5°	30.3	30.8	32.9	37.3	44.5	56.5	77.4	119.1	197.2	298.1	383.7
105°	38.6	39.7	41.7	45.6	51.9	62.3	80.3	114.6	177.6	267.8	363.4
107.5°	47.6	48.5	50.5	54.4	60.3	69.9	85.8	114.2	165.0	241.0	327.8
110°	53.9	55.0	56.6	60.3	66.0	75.3	90.3	115.6	160.2	225.8	305.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	59.9	60.8	62.5	66.2	71.8	80.9	94.8	118.3	157.5	215.7	286.0
115°	68.2	69.7	71.6	74.9	80.6	89.6	102.3	122.5	156.6	204.8	262.5
117.5°	76.7	78.2	79.9	83.0	89.4	97.6	110.2	128.3	157.1	198.4	248.3
120°	82.6	83.6	85.3	88.6	94.9	103.2	115.3	132.5	158.3	195.5	240.8
122.5°	87.7	88.7	90.3	94.0	100.0	108.9	120.6	136.6	160.0	193.7	234.7
125°	94.9	95.6	97.6	101.2	107.5	116.6	128.3	142.9	162.9	191.1	226.9
127.5°	100.5	101.4	104.0	107.6	114.6	123.7	134.9	148.1	166.1	190.0	219.9
130°	104.0	104.9	107.9	111.9	118.9	127.9	138.9	151.6	168.2	189.2	216.1
132.5°	106.6	107.8	111.1	115.9	122.9	131.7	142.3	154.8	169.8	188.9	212.7
135°	111.2	112.5	116.2	121.2	128.3	137.2	147.5	158.9	172.2	188.5	208.2
137.5°	115.6	117.1	120.6	125.9	132.9	141.2	151.2	161.9	173.8	187.8	204.2
140°	118.6	120.3	123.6	128.9	135.5	143.9	153.5	163.5	174.8	187.6	201.8
142.5°	121.8	123.2	126.8	131.6	138.3	146.0	155.4	165.1	175.7	187.0	199.7
145°	126.9	127.9	130.9	135.9	141.6	149.2	157.9	166.8	176.2	186.2	196.8
147.5°	132.1	132.7	135.6	140.0	145.4	151.9	159.9	168.0	176.2	184.9	194.1
150°	135.5	135.9	138.6	142.9	147.5	153.5	161.2	168.2	176.2	183.9	192.2
152.5°	139.0	139.1	141.8	145.5	149.7	155.4	162.0	168.7	175.4	182.6	190.0
155°	144.2	144.2	146.2	149.6	153.3	157.9	163.5	168.9	174.6	180.2	186.8
157.5°	148.4	148.6	150.2	153.2	156.3	159.9	164.4	169.2	173.4	178.1	183.2
160°	151.6	151.6	152.9	155.5	157.9	161.2	165.2	169.2	172.9	176.5	180.9
162.5°	153.9	153.9	155.0	157.1	159.2	162.0	165.5	168.9	171.8	174.9	178.4
165°	157.5	157.2	157.9	159.6	160.9	163.2	165.9	168.2	170.2	172.6	175.2
167.5°	160.2	159.9	160.2	161.5	162.4	163.9	165.8	167.7	168.6	170.1	172.1
170°	161.8	161.2	161.6	162.5	163.2	163.9	165.5	166.8	167.6	168.5	170.2
172.5°	163.0	162.5	162.6	163.3	163.7	164.1	165.5	166.6	166.7	167.2	168.3
175°	164.2	163.9	163.5	164.2	164.2	164.6	165.2	165.9	165.5	165.5	166.2
177.5°	164.9	164.6	164.3	164.6	164.6	164.6	164.9	165.3	164.9	164.6	164.9
180°	164.6	164.6	164.6	164.6	164.6	164.6	164.6	164.6	164.6	164.6	164.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8	1147.8
2.5°	1143.4	1145.2	1146.9	1147.7	1147.5	1147.4	1147.2	1147.0
5°	1137.4	1139.5	1141.8	1142.6	1142.2	1141.8	1141.3	1140.9
7.5°	1125.3	1127.3	1129.3	1130.1	1129.8	1129.5	1129.3	1129.1
10°	1114.3	1116.2	1118.1	1119.0	1118.5	1118.0	1117.7	1117.2
12.5°	1102.1	1103.5	1105.0	1105.6	1105.3	1105.0	1104.8	1104.6
15°	1080.2	1081.9	1083.7	1083.9	1082.6	1081.3	1080.1	1078.7
17.5°	1052.5	1053.8	1055.0	1055.4	1054.9	1054.4	1054.0	1053.5
20°	1032.1	1032.9	1033.9	1034.0	1033.3	1032.6	1032.0	1031.3
22.5°	1010.4	1011.2	1011.8	1011.7	1011.0	1010.1	1009.3	1008.4
25°	974.5	974.8	975.0	974.8	974.1	973.5	972.8	972.1
27.5°	936.3	936.5	936.7	936.3	935.6	934.7	933.9	933.0
30°	909.9	909.9	909.9	909.2	907.7	906.1	904.6	903.1
32.5°	882.2	881.0	879.8	878.7	877.9	877.0	876.2	875.4
35°	837.3	835.9	834.6	833.4	832.3	831.2	830.1	829.0
37.5°	790.7	789.1	787.6	786.5	785.7	785.0	784.3	783.6
40°	760.3	758.7	756.9	755.5	754.7	753.8	752.9	752.1
42.5°	728.8	727.0	725.3	724.0	723.1	722.2	721.3	720.5
45°	681.6	679.0	676.4	674.5	673.4	672.3	671.2	670.1
47.5°	632.0	629.4	626.8	625.0	624.1	623.1	622.2	621.1
50°	599.2	596.7	594.4	592.5	591.2	589.8	588.5	587.2
52.5°	565.9	563.8	561.8	560.2	558.8	557.5	556.2	554.9
55°	515.3	512.8	510.5	508.7	507.6	506.5	505.4	504.4
57.5°	465.4	463.4	461.2	459.5	458.2	456.9	455.6	454.4
60°	430.3	428.3	426.3	424.8	423.7	422.6	421.5	420.5
62.5°	396.3	394.4	392.4	391.1	390.3	389.6	388.8	388.0
65°	345.8	344.1	342.3	341.1	340.4	339.8	339.1	338.5
67.5°	295.8	294.3	292.7	291.4	290.6	289.6	288.7	287.8
70°	263.4	261.8	260.3	259.0	257.9	256.8	255.7	254.6
72.5°	230.5	229.2	227.9	226.9	226.3	225.7	225.2	224.6
75°	183.3	182.3	181.2	180.3	179.6	179.0	178.3	177.7
77.5°	139.2	138.5	137.7	137.4	137.4	137.4	137.4	137.4
80°	111.1	110.8	110.7	110.6	110.6	110.6	110.6	110.6
82.5°	85.5	85.1	84.6	84.4	84.3	84.1	83.9	83.7
85°	48.4	48.1	47.6	47.4	47.4	47.4	47.4	47.4
87.5°	18.7	18.6	18.5	18.5	18.5	18.5	18.6	18.5
90°	8.3	8.7	9.0	9.6	9.3	9.6	10.0	9.6
92.5°	28.1	22.2	19.6	17.9	17.3	16.3	16.7	16.0
95°	119.9	81.2	63.6	51.7	45.3	42.3	40.0	38.6
97.5°	298.9	239.4	196.4	156.7	132.1	117.1	108.0	105.2
100°	392.7	365.7	326.8	279.5	245.8	221.5	208.5	208.9
102.5°	423.9	423.0	400.3	370.3	344.1	324.9	314.1	306.3
105°	433.0	466.3	472.6	464.0	448.7	436.0	425.4	423.7
107.5°	406.7	460.8	490.0	501.9	502.2	497.9	494.3	491.3
110°	381.7	443.0	484.9	508.3	517.6	520.3	519.6	519.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	356.9	419.5	466.6	496.5	513.6	521.9	524.4	524.5
115°	324.0	382.0	431.0	467.3	492.3	506.9	513.6	515.3
117.5°	300.3	350.3	394.3	431.1	457.2	474.0	483.5	485.8
120°	287.8	332.7	372.7	406.3	432.6	451.3	459.3	461.3
122.5°	278.0	318.6	355.6	386.9	410.3	427.1	435.8	438.4
125°	264.8	301.1	333.1	359.8	381.1	395.7	404.1	406.3
127.5°	253.4	285.7	314.5	338.8	357.8	370.3	377.9	379.9
130°	246.1	276.2	303.1	325.7	343.4	355.4	362.4	365.0
132.5°	239.5	267.0	292.2	313.8	330.4	342.3	348.6	350.4
135°	230.5	254.1	275.8	294.7	311.1	321.1	327.1	329.4
137.5°	222.3	241.7	260.3	276.8	290.5	300.7	305.7	307.3
140°	217.5	234.5	250.4	264.8	277.5	286.8	292.1	291.8
142.5°	213.0	227.5	241.4	253.8	264.7	273.0	277.7	277.4
145°	207.5	218.5	229.1	238.8	247.1	254.1	256.8	257.5
147.5°	203.0	211.8	220.4	227.2	233.6	238.3	240.8	241.1
150°	199.8	207.5	214.5	220.8	225.8	229.5	231.5	231.5
152.5°	196.9	203.5	209.7	215.0	218.9	222.3	223.5	223.5
155°	192.6	197.8	202.8	206.8	209.8	212.5	213.2	213.5
157.5°	187.8	192.3	196.1	199.3	201.9	203.9	204.4	204.3
160°	185.2	188.9	192.2	194.5	196.8	198.9	198.9	198.5
162.5°	182.0	185.1	188.2	190.3	191.8	193.5	193.5	193.2
165°	177.9	179.8	182.2	183.9	185.2	186.5	186.2	186.2
167.5°	174.3	175.8	177.1	178.3	178.9	179.8	179.6	179.6
170°	171.8	172.9	174.2	174.8	175.2	175.9	175.5	175.5
172.5°	169.8	170.5	171.5	171.9	172.0	172.7	172.1	171.8
175°	166.8	167.2	167.9	167.9	167.9	168.2	167.9	167.6
177.5°	165.0	165.3	165.6	165.6	165.3	165.6	165.0	165.0
180°	164.6	164.6	164.6	164.6	164.6	164.6	164.6	164.6

(END OF REPORT)