

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: P332597-935

Luminaire Tested: **S124DIP-S795D590U935-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332597-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S795D590U935-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4752.6 lumens
Efficiency: N/A
Efficacy: 117.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Direct

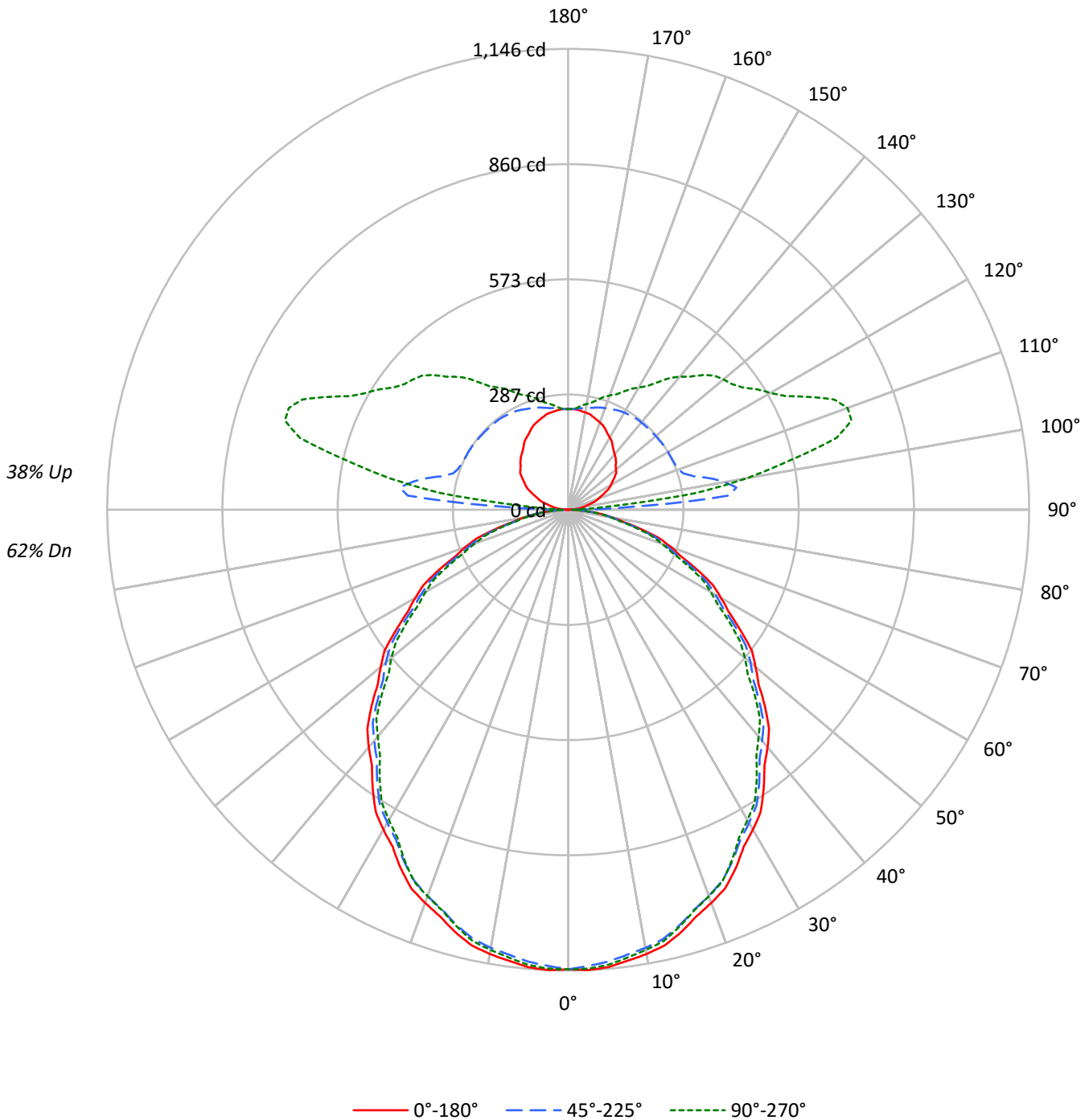
Input Watts (W): 40.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67
1	100	96	92	88	94	90	86	83	79	76	74	69	67	65	59	58	56
2	91	84	77	72	85	79	73	68	69	65	61	60	57	54	52	50	48
3	83	74	66	60	78	69	63	57	61	56	51	53	49	46	46	43	40
4	76	65	57	51	71	61	54	49	54	48	44	47	43	39	41	38	35
5	70	58	50	44	65	55	47	42	49	43	38	43	38	34	37	33	30
6	65	52	44	38	60	49	42	36	44	38	33	39	34	30	34	30	27
7	60	47	39	33	56	45	37	32	40	34	29	35	30	27	31	27	24
8	56	43	35	30	52	41	33	28	36	30	26	32	27	24	28	24	21
9	52	39	32	27	48	37	30	25	33	27	23	30	25	21	26	22	19
10	48	36	29	24	45	34	28	23	31	25	21	27	23	19	24	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9227	9227	9227
5°	9255	9143	9210
10°	9197	9069	9114
15°	9086	8940	8964
20°	8937	8781	8789
25°	8769	8598	8573
30°	8563	8383	8307
35°	8348	8159	8051
40°	8126	7904	7759
45°	7895	7654	7507
50°	7637	7430	7200
55°	7361	7142	6909
60°	7083	6817	6610
65°	6770	6508	6245
70°	6420	6097	5858
75°	5883	5599	5459
80°	5235	5026	4895
85°	4576	4409	4326



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.6	2.3
10°-20°	303.3	6.4
20°-30°	446.4	9.4
30°-40°	518.9	10.9
40°-50°	518.9	10.9
50°-60°	453.9	9.6
60°-70°	337.1	7.1
70°-80°	191.5	4.0
80°-90°	56.7	1.2
90°-100°	180.6	3.8
100°-110°	375.8	7.9
110°-120°	336.6	7.1
120°-130°	283.1	6.0
130°-140°	236.1	5.0
140°-150°	180.4	3.8
150°-160°	126.8	2.7
160°-170°	74.6	1.6
170°-180°	24.3	0.5
0°-30°	857.3	18.0
0°-40°	1376.2	29.0
0°-60°	2349.1	49.4
0°-90°	2934.3	61.7
90°-120°	893.0	18.8
90°-150°	1592.6	33.5
90°-180°	1818.0	38.3
0°-180°	4752.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1143	1143	1143	1143	1143	
5°	1142	1138	1128	1138	1136	108
15°	1087	1083	1070	1075	1072	306
25°	984	978	965	966	962	453
35°	847	840	828	822	817	529
45°	692	685	670	661	658	533
55°	523	520	507	497	491	468
65°	354	350	341	332	327	351
75°	189	184	180	176	175	200
85°	49	49	48	48	47	54
90°	0	4	9	10	10	4
95°	16	51	400	198	120	18
105°	57	83	322	694	691	61
115°	101	127	287	552	664	100
125°	141	168	286	470	529	125
135°	168	199	283	417	474	129
145°	193	221	282	352	386	121
155°	220	237	274	310	324	101
165°	239	247	263	278	282	68
175°	250	250	252	255	254	24
180°	250	250	250	250	250	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0
2.5°	1145.9	1145.4	1144.9	1144.4	1143.9	1142.8	1141.0	1139.2	1137.4	1135.7	1137.2
5°	1142.0	1141.3	1140.4	1139.6	1138.8	1137.2	1135.0	1132.7	1130.5	1128.3	1130.5
7.5°	1131.4	1130.6	1129.8	1128.9	1128.2	1126.5	1124.0	1121.5	1119.0	1116.5	1118.4
10°	1121.9	1121.1	1120.2	1119.5	1118.6	1116.9	1114.2	1111.6	1109.0	1106.3	1107.9
12.5°	1109.4	1108.6	1107.8	1107.0	1106.2	1104.3	1101.6	1098.7	1096.0	1093.1	1094.9
15°	1087.1	1086.2	1085.5	1084.6	1083.8	1081.9	1078.8	1075.8	1072.7	1069.7	1070.9
17.5°	1060.1	1059.1	1058.1	1057.1	1056.1	1054.1	1051.3	1048.4	1045.4	1042.6	1043.4
20°	1040.3	1039.3	1038.4	1037.3	1036.3	1034.2	1031.2	1028.1	1025.1	1022.1	1022.7
22.5°	1019.2	1017.8	1016.4	1015.1	1013.7	1011.6	1008.5	1005.5	1002.4	999.4	1000.5
25°	984.5	983.1	981.6	980.2	978.8	976.6	973.8	970.9	968.1	965.3	965.4
27.5°	944.9	943.5	942.0	940.6	939.1	937.0	934.4	931.8	929.1	926.4	925.9
30°	918.6	917.0	915.3	913.7	912.1	909.9	907.2	904.7	902.0	899.3	898.5
32.5°	890.7	889.2	887.8	886.3	884.8	882.7	879.9	877.1	874.3	871.5	870.6
35°	847.1	845.7	844.3	842.8	841.5	839.3	836.5	833.6	830.8	827.9	826.5
37.5°	801.2	799.9	798.6	797.3	795.9	793.8	790.7	787.6	784.6	781.5	780.0
40°	771.1	769.5	767.8	766.2	764.6	762.2	759.2	756.1	753.1	750.0	748.0
42.5°	738.9	737.9	736.9	736.0	734.9	732.8	729.4	726.1	722.6	719.3	717.0
45°	691.5	690.0	688.6	687.2	685.8	683.4	680.2	676.9	673.6	670.4	668.1
47.5°	641.8	640.8	639.9	638.9	637.9	635.9	632.9	629.9	626.9	623.9	621.3
50°	608.1	607.3	606.5	605.6	604.9	603.0	600.2	597.4	594.4	591.6	588.8
52.5°	575.1	574.2	573.2	572.2	571.2	569.2	566.2	563.2	560.2	557.2	554.7
55°	523.0	522.3	521.7	521.1	520.5	518.8	515.9	513.1	510.2	507.4	504.9
57.5°	473.1	472.4	471.7	471.1	470.4	468.6	465.8	463.0	460.2	457.4	455.0
60°	438.7	437.6	436.6	435.7	434.6	432.7	430.2	427.5	424.8	422.2	420.3
62.5°	405.0	404.2	403.3	402.4	401.6	399.8	396.9	394.1	391.3	388.5	386.8
65°	354.4	353.4	352.4	351.4	350.3	348.8	346.8	344.7	342.7	340.7	338.6
67.5°	303.5	302.6	301.6	300.7	299.8	298.3	296.4	294.4	292.5	290.5	288.5
70°	272.0	270.6	269.1	267.7	266.3	264.8	263.1	261.5	259.8	258.3	256.7
72.5°	238.3	236.9	235.5	234.0	232.6	231.3	230.0	228.6	227.3	226.0	224.7
75°	188.6	187.6	186.7	185.6	184.6	183.6	182.5	181.5	180.6	179.5	178.7
77.5°	141.2	140.8	140.3	139.9	139.4	138.8	137.8	137.0	136.0	135.2	134.9
80°	112.6	112.0	111.4	110.8	110.2	109.7	109.3	108.9	108.5	108.1	107.6
82.5°	84.8	84.6	84.2	83.9	83.7	83.5	83.4	83.3	83.3	83.2	82.9
85°	49.4	49.4	49.4	49.4	49.4	49.2	48.8	48.5	48.0	47.6	47.6
87.5°	19.1	19.2	19.3	19.3	19.2	19.0	19.5	19.3	19.3	19.4	19.3
90°	0.5	1.5	2.9	3.4	4.0	4.0	6.9	6.9	7.8	8.9	8.4
92.5°	5.6	8.2	12.7	18.8	25.9	36.2	61.1	99.2	136.4	155.8	129.8
95°	16.2	17.7	22.6	29.0	40.7	61.4	104.1	184.7	302.0	400.3	411.6
97.5°	29.1	29.1	33.3	39.2	49.3	66.6	99.5	166.0	282.8	421.6	517.1
100°	37.4	37.4	40.7	46.7	56.0	71.7	100.7	156.2	256.4	394.9	520.6
102.5°	45.2	46.0	49.0	54.5	63.5	78.4	104.6	153.4	238.7	361.5	491.1
105°	57.4	59.0	61.4	67.3	76.1	90.4	113.9	154.7	223.5	322.2	437.6
107.5°	71.0	72.0	74.5	80.8	89.2	103.2	124.8	162.0	220.8	300.2	394.4
110°	80.1	81.0	83.5	89.4	98.2	111.5	133.1	167.5	221.5	292.7	372.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	88.7	89.7	92.6	98.1	106.9	120.1	140.9	173.4	223.9	289.2	360.6
115°	101.2	102.6	106.1	111.0	120.4	133.6	153.3	182.7	228.4	287.3	349.2
117.5°	114.2	115.5	118.6	124.0	132.7	146.5	165.1	192.3	233.2	286.8	344.1
120°	122.8	123.8	127.2	132.6	140.9	154.7	173.4	198.9	236.8	286.8	341.4
122.5°	130.6	131.6	135.1	140.1	149.2	162.6	181.2	205.2	240.3	286.5	338.2
125°	140.9	142.9	145.9	151.3	160.6	174.4	192.0	214.6	245.6	285.9	333.0
127.5°	150.1	151.7	155.2	161.4	171.1	184.9	202.1	222.8	249.8	284.7	326.1
130°	155.2	157.1	161.1	168.5	177.8	192.0	208.7	227.9	253.0	284.4	321.7
132.5°	160.3	161.9	167.0	174.0	184.1	197.5	214.2	233.0	255.7	284.0	317.8
135°	167.5	169.4	174.4	182.7	193.0	205.8	222.0	239.7	259.8	283.4	311.9
137.5°	174.7	176.5	181.9	189.9	200.6	212.8	227.9	244.4	262.3	283.3	306.8
140°	179.8	181.2	186.7	195.0	205.3	217.1	231.9	247.5	264.2	282.9	304.0
142.5°	185.3	186.8	191.7	199.7	209.7	221.0	235.4	249.9	265.8	282.9	301.7
145°	193.0	194.5	199.4	206.3	215.6	226.4	239.2	252.4	266.7	281.9	297.6
147.5°	201.7	202.2	206.6	213.6	221.4	231.2	243.1	254.7	267.2	280.2	294.0
150°	207.2	207.8	211.7	217.6	225.0	234.3	245.1	255.9	267.2	279.0	291.3
152.5°	212.4	212.5	216.4	221.9	228.5	237.0	246.7	256.7	266.4	277.0	288.1
155°	219.6	220.1	223.0	227.9	233.3	240.6	249.0	257.4	265.2	274.1	283.4
157.5°	226.5	226.5	229.3	233.1	237.8	243.6	250.7	257.4	264.0	271.0	278.6
160°	230.8	230.8	232.8	236.3	240.1	245.6	251.5	257.4	262.8	268.6	275.1
162.5°	234.8	234.4	235.9	239.0	242.5	246.8	252.3	257.4	261.6	266.3	271.9
165°	239.2	239.2	240.1	242.6	245.1	248.1	252.4	256.4	259.3	262.8	266.7
167.5°	243.6	243.1	243.6	245.5	246.8	249.1	252.4	255.2	257.0	259.2	262.0
170°	245.6	245.1	245.6	247.0	248.1	249.5	251.9	254.4	255.4	256.8	258.8
172.5°	247.5	247.0	247.1	248.2	248.8	249.9	251.6	253.7	253.8	254.5	256.1
175°	249.5	249.0	249.0	249.5	250.0	250.0	251.0	252.4	251.9	251.9	253.0
177.5°	250.4	250.0	249.6	250.0	250.0	250.0	250.4	251.2	250.4	250.4	250.8
180°	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0
2.5°	1138.8	1140.5	1142.1	1142.9	1142.7	1142.5	1142.4	1142.2
5°	1132.7	1135.0	1137.2	1138.2	1137.7	1137.4	1137.0	1136.5
7.5°	1120.2	1122.0	1123.7	1124.5	1124.3	1124.0	1123.8	1123.5
10°	1109.6	1111.2	1112.8	1113.4	1113.0	1112.6	1112.2	1111.8
12.5°	1096.7	1098.5	1100.3	1100.9	1100.4	1099.8	1099.2	1098.6
15°	1072.1	1073.3	1074.5	1074.9	1074.3	1073.7	1073.1	1072.5
17.5°	1044.1	1044.9	1045.7	1045.9	1045.4	1045.0	1044.7	1044.2
20°	1023.3	1023.9	1024.5	1024.6	1024.2	1023.8	1023.4	1023.0
22.5°	1001.5	1002.6	1003.8	1003.9	1003.2	1002.5	1001.7	1001.0
25°	965.7	965.9	966.1	965.8	965.0	964.1	963.4	962.5
27.5°	925.5	925.0	924.5	923.8	922.7	921.7	920.7	919.6
30°	897.7	896.9	896.0	895.2	894.1	893.1	892.1	891.1
32.5°	869.5	868.6	867.6	866.6	865.6	864.5	863.5	862.5
35°	825.1	823.6	822.2	821.0	819.9	819.0	817.9	816.9
37.5°	778.4	776.9	775.4	774.0	772.6	771.3	769.9	768.5
40°	746.0	744.0	741.9	740.4	739.3	738.4	737.4	736.3
42.5°	714.5	712.2	709.8	708.3	707.7	707.0	706.3	705.6
45°	665.9	663.7	661.4	660.0	659.4	658.8	658.1	657.5
47.5°	618.8	616.3	613.7	611.7	610.2	608.6	607.1	605.5
50°	585.9	583.1	580.2	578.2	577.0	575.8	574.5	573.3
52.5°	552.2	549.6	547.1	545.1	543.5	542.0	540.4	538.9
55°	502.5	500.1	497.6	495.8	494.6	493.4	492.1	490.9
57.5°	452.7	450.4	448.1	446.3	445.1	443.9	442.8	441.6
60°	418.5	416.7	414.8	413.5	412.4	411.4	410.4	409.4
62.5°	385.1	383.5	381.9	380.5	379.4	378.4	377.5	376.4
65°	336.7	334.6	332.5	331.1	330.0	329.0	328.0	326.9
67.5°	286.6	284.6	282.7	281.5	281.3	281.0	280.7	280.4
70°	255.0	253.4	251.8	250.6	250.0	249.4	248.8	248.2
72.5°	223.4	222.1	220.8	219.9	219.2	218.6	218.0	217.4
75°	177.9	177.0	176.2	175.7	175.6	175.3	175.1	175.0
77.5°	134.7	134.4	134.2	133.8	133.3	132.8	132.2	131.7
80°	107.3	106.9	106.4	106.2	105.9	105.7	105.6	105.3
82.5°	82.7	82.4	82.1	82.0	81.8	81.5	81.4	81.1
85°	47.6	47.6	47.6	47.5	47.4	47.1	46.9	46.7
87.5°	19.4	19.5	19.5	19.5	19.6	19.7	19.6	19.6
90°	8.9	9.3	9.8	9.8	10.3	10.8	10.3	10.3
92.5°	96.4	72.6	57.8	48.0	42.1	39.5	37.8	37.8
95°	363.9	287.8	222.0	174.4	150.3	135.1	126.2	119.9
97.5°	537.7	509.5	461.4	410.1	374.9	345.3	330.5	320.3
100°	592.4	602.2	578.1	541.7	499.0	469.1	454.3	450.4
102.5°	589.6	638.3	645.3	630.2	603.9	582.2	566.7	563.5
105°	550.1	635.1	683.7	703.9	704.8	700.9	694.0	691.0
107.5°	494.0	584.4	653.0	696.7	721.0	732.2	737.1	738.4
110°	460.2	545.2	616.4	670.5	705.3	725.9	734.8	739.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	435.5	510.6	577.9	631.9	671.5	696.5	708.9	716.0
115°	410.6	471.1	528.5	575.7	614.4	643.9	659.6	663.6
117.5°	398.4	448.4	493.6	533.6	566.7	591.4	607.3	610.4
120°	393.0	438.6	477.9	512.7	540.8	562.4	575.1	580.6
122.5°	388.2	432.3	468.0	498.6	522.3	540.8	551.6	557.0
125°	380.1	422.4	456.2	483.3	502.9	517.2	526.5	529.4
127.5°	370.3	410.7	444.5	470.1	489.9	502.6	510.4	513.3
130°	362.5	401.3	434.6	460.7	480.9	493.1	501.0	503.9
132.5°	354.2	390.6	423.3	449.3	469.1	482.9	490.3	493.4
135°	342.9	374.8	404.7	429.3	448.9	462.7	470.5	473.5
137.5°	332.5	359.6	384.8	407.0	425.3	438.9	445.4	448.9
140°	326.6	349.7	371.8	392.4	409.7	420.4	427.3	431.3
142.5°	321.2	341.5	360.4	378.3	393.5	403.6	409.7	412.3
145°	313.3	330.0	344.8	358.5	370.8	379.2	384.1	386.5
147.5°	306.9	320.2	332.0	342.9	351.9	359.0	362.7	363.7
150°	303.1	314.4	324.2	333.0	340.9	347.2	350.2	350.7
152.5°	298.7	308.4	317.5	324.8	331.4	336.7	338.4	338.9
155°	292.2	300.1	307.5	313.3	318.3	322.2	323.6	323.6
157.5°	285.2	291.9	298.0	302.7	306.5	309.4	310.3	310.3
160°	280.9	286.4	291.7	295.7	298.6	301.6	302.0	302.0
162.5°	276.6	281.2	285.4	289.0	291.2	294.1	294.6	294.2
165°	270.6	273.5	277.0	279.5	281.5	283.4	282.9	282.4
167.5°	264.8	267.1	269.8	271.3	272.3	273.5	273.5	273.1
170°	261.3	262.8	264.8	266.2	267.2	267.7	267.2	267.2
172.5°	258.1	259.2	260.5	261.5	262.1	262.6	262.1	261.3
175°	253.9	254.4	255.4	255.4	255.4	256.4	255.4	254.4
177.5°	251.2	251.6	251.6	251.9	251.6	251.9	251.2	250.4
180°	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0

(END OF REPORT)