

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: P332912-840

Luminaire Tested: **S124RDIP-S575D810U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332912-840
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: S124RDIP-S575D810U840-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 575 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 810 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5296.5 lumens
Efficiency: N/A
Efficacy: 137.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

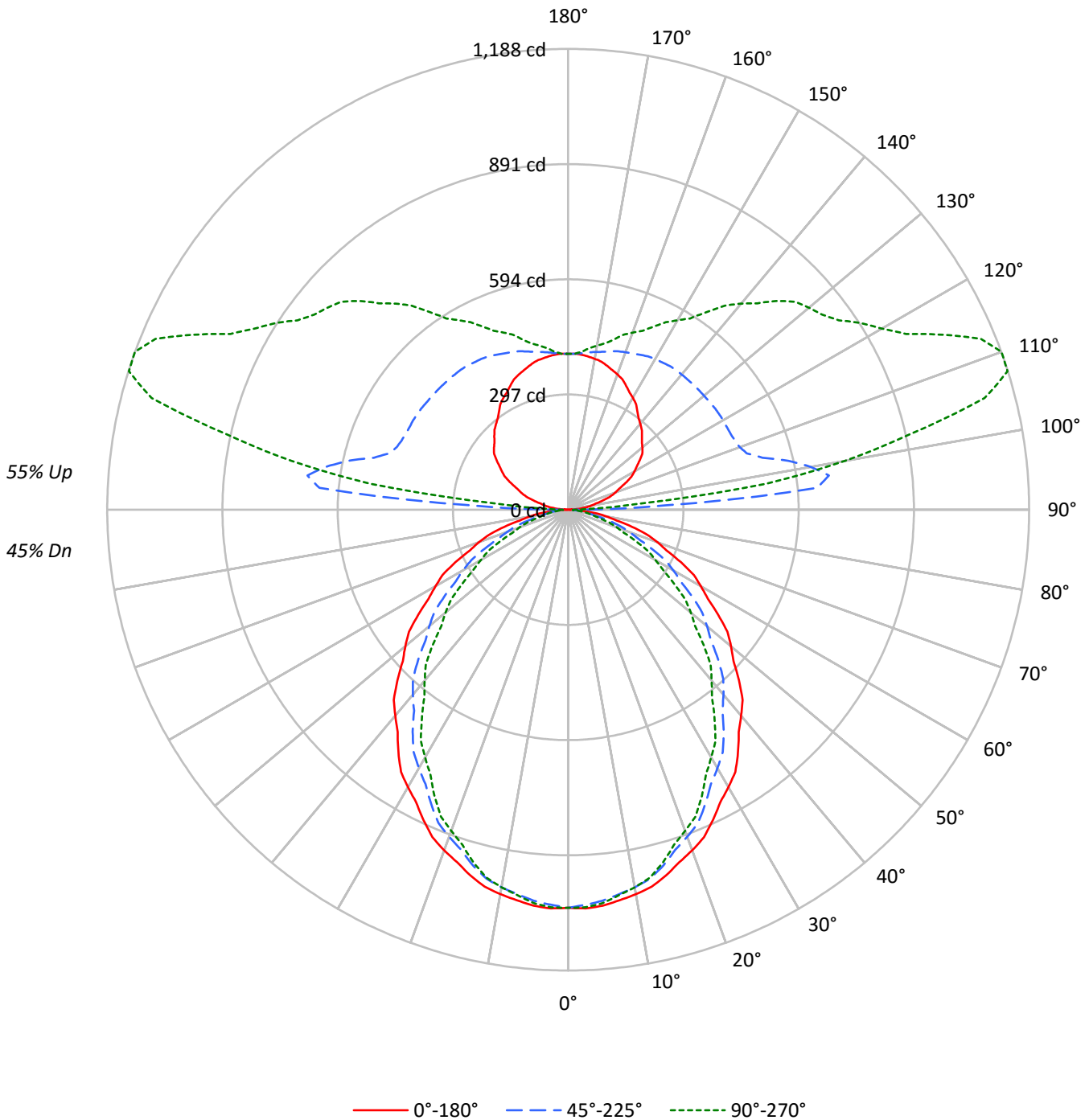
Input Watts (W): 38.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332912-840

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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	80	80	80	65	65	65	51	51	51	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	62	59	55	51	48	46	41	39	37	32
3	81	72	64	59	74	66	60	55	55	51	47	45	42	39	36	34	32	28
4	74	63	56	50	68	58	52	47	49	44	40	40	37	34	32	30	28	24
5	68	57	49	43	62	52	45	40	44	39	35	36	32	29	29	26	24	21
6	63	51	43	37	57	47	40	35	40	34	30	33	29	26	27	24	21	18
7	58	46	38	33	53	42	36	31	36	31	27	30	26	23	24	21	19	16
8	54	42	34	29	49	39	32	27	33	28	24	27	23	20	22	19	17	15
9	50	38	31	26	46	35	29	24	30	25	21	25	21	18	21	18	16	13
10	47	35	28	23	43	32	26	22	28	23	19	23	19	17	19	16	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8285	8285	8285
5°	8304	8203	8253
10°	8252	8104	8104
15°	8157	7934	7875
20°	8027	7710	7568
25°	7861	7448	7259
30°	7699	7171	6871
35°	7521	6885	6482
40°	7304	6559	6062
45°	7106	6235	5634
50°	6880	5863	5181
55°	6636	5475	4690
60°	6370	5050	4187
65°	6124	4518	3692
70°	5769	3932	3135
75°	5321	3260	2548
80°	4640	2483	2338
85°	3927	2251	2112



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.4	1.8
10°-20°	268.8	5.1
20°-30°	388.2	7.3
30°-40°	440.0	8.3
40°-50°	424.9	8.0
50°-60°	353.4	6.7
60°-70°	244.0	4.6
70°-80°	123.7	2.3
80°-90°	33.9	0.6
90°-100°	290.3	5.5
100°-110°	604.2	11.4
110°-120°	541.2	10.2
120°-130°	455.2	8.6
130°-140°	379.6	7.2
140°-150°	290.0	5.5
150°-160°	203.8	3.8
160°-170°	119.9	2.3
170°-180°	39.0	0.7
0°-30°	753.5	14.2
0°-40°	1193.5	22.5
0°-60°	1971.8	37.2
0°-90°	2373.4	44.8
90°-120°	1435.7	27.1
90°-150°	2560.4	48.3
90°-180°	2923.0	55.2
0°-180°	5296.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1026	1026	1026	1026	1026	
5°	1025	1021	1012	1020	1018	97
15°	976	968	949	948	942	275
25°	882	867	836	823	815	406
35°	763	737	699	673	658	477
45°	622	592	546	509	494	480
55°	472	439	389	350	333	422
65°	321	286	236	204	193	317
75°	171	141	104	87	82	180
85°	42	28	24	23	23	48
90°	1	6	14	16	17	3
95°	26	82	644	319	193	29
105°	92	134	518	1115	1111	99
115°	163	204	462	888	1067	161
125°	227	269	460	755	851	202
135°	269	321	456	670	761	208
145°	310	355	453	565	622	195
155°	353	381	441	499	520	163
165°	385	396	422	447	454	109
175°	401	402	405	411	409	38
180°	402	402	402	402	402	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3
2.5°	1028.9	1028.2	1027.7	1027.1	1026.6	1025.5	1024.0	1022.5	1020.9	1019.4	1020.9
5°	1024.7	1024.0	1023.3	1022.6	1022.0	1020.6	1018.4	1016.3	1014.2	1012.2	1013.9
7.5°	1015.4	1014.7	1014.0	1013.3	1012.5	1010.8	1008.0	1005.3	1002.6	999.9	1001.0
10°	1006.6	1005.8	1004.9	1004.0	1003.2	1001.2	998.0	994.8	991.7	988.6	989.3
12.5°	995.3	994.3	993.3	992.3	991.3	989.0	985.2	981.5	977.9	974.1	974.5
15°	976.0	974.4	972.9	971.3	969.7	966.7	962.4	958.1	953.6	949.3	949.0
17.5°	952.6	950.3	948.1	945.7	943.5	939.8	934.5	929.3	924.0	918.8	917.9
20°	934.3	932.1	929.8	927.6	925.2	921.2	915.2	909.3	903.3	897.5	896.1
22.5°	914.2	911.7	909.2	906.6	904.0	899.6	893.2	886.9	880.5	874.1	872.0
25°	882.5	879.4	876.2	873.0	869.9	864.7	857.6	850.4	843.2	836.2	833.1
27.5°	849.2	845.3	841.3	837.4	833.3	827.6	819.9	812.3	804.7	797.0	793.3
30°	825.9	821.5	817.2	812.8	808.5	802.1	794.0	785.8	777.5	769.3	765.0
32.5°	801.4	796.5	791.5	786.6	781.7	775.0	766.5	758.0	749.5	741.0	736.0
35°	763.1	757.5	751.8	746.3	740.7	733.6	724.8	716.1	707.3	698.6	692.7
37.5°	722.1	716.3	710.5	704.8	698.9	691.3	681.6	671.9	662.3	652.6	645.9
40°	693.1	687.3	681.6	675.8	670.0	662.2	652.3	642.3	632.4	622.4	615.0
42.5°	665.4	659.4	653.4	647.3	641.3	633.1	622.7	612.3	602.0	591.6	584.1
45°	622.4	615.9	609.5	603.0	596.5	588.0	577.5	567.1	556.6	546.1	537.6
47.5°	577.9	571.3	564.5	557.8	551.2	542.4	531.5	520.7	509.8	498.9	490.0
50°	547.8	540.9	534.1	527.3	520.5	511.5	500.3	489.2	478.0	466.8	458.1
52.5°	516.9	510.3	503.6	497.0	490.2	481.2	469.7	458.3	446.8	435.4	426.5
55°	471.5	464.5	457.6	450.5	443.5	434.3	423.0	411.7	400.3	389.0	379.9
57.5°	426.6	419.3	412.0	404.8	397.5	388.3	377.1	365.9	354.8	343.6	334.4
60°	394.5	387.5	380.5	373.5	366.6	357.5	346.3	335.1	324.0	312.8	303.7
62.5°	365.6	358.3	351.0	343.8	336.5	327.2	315.7	304.3	292.8	281.3	273.0
65°	320.6	313.2	305.6	298.1	290.5	281.2	270.0	258.9	247.7	236.5	229.0
67.5°	274.0	266.7	259.5	252.4	245.2	236.4	226.0	215.6	205.3	194.9	188.4
70°	244.4	237.0	229.7	222.4	215.1	206.4	196.4	186.5	176.5	166.6	160.9
72.5°	213.0	206.3	199.7	193.1	186.4	178.4	169.1	159.7	150.2	140.8	135.9
75°	170.6	164.1	157.6	151.2	144.7	137.3	129.2	120.9	112.7	104.5	100.5
77.5°	127.4	122.0	116.5	111.0	105.5	99.5	92.8	86.2	79.6	72.9	70.6
80°	99.8	94.7	89.7	84.6	79.6	74.4	69.2	63.9	58.7	53.4	52.9
82.5°	75.9	71.3	66.7	62.0	57.4	53.5	50.5	47.5	44.5	41.5	41.1
85°	42.4	39.0	35.4	31.9	28.5	26.5	26.0	25.4	24.8	24.3	24.0
87.5°	14.6	13.8	13.1	12.2	11.2	10.6	11.4	11.3	11.5	11.6	11.3
90°	0.8	2.3	4.7	5.6	6.4	6.4	11.0	11.0	12.6	14.2	13.4
92.5°	9.0	13.1	20.5	30.2	41.7	58.1	98.3	159.5	219.2	250.4	208.6
95°	26.1	28.4	36.4	46.6	65.5	98.7	167.4	296.9	485.6	643.6	661.8
97.5°	46.8	46.8	53.5	63.0	79.3	107.0	160.0	266.9	454.5	677.8	831.3
100°	60.0	60.0	65.5	75.0	90.0	115.3	161.9	251.2	412.2	634.9	837.0
102.5°	72.6	73.9	78.8	87.7	102.0	126.0	168.1	246.7	383.7	581.2	789.6
105°	92.4	94.7	98.7	108.2	122.4	145.3	183.2	248.7	359.3	518.0	703.6
107.5°	114.2	115.7	119.7	129.8	143.4	166.0	200.8	260.4	354.9	482.6	634.1
110°	128.8	130.3	134.2	143.7	157.9	179.3	214.0	269.2	356.1	470.6	599.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	142.6	144.2	148.8	157.6	171.8	193.2	226.6	278.7	359.9	464.9	579.8
115°	162.7	165.0	170.6	178.4	193.5	214.8	246.4	293.8	367.2	461.9	561.4
117.5°	183.5	185.7	190.7	199.3	213.4	235.5	265.5	309.0	375.0	461.1	553.2
120°	197.4	198.9	204.5	213.2	226.6	248.7	278.7	319.8	380.6	461.1	548.8
122.5°	210.1	211.7	217.1	225.2	239.8	261.4	291.3	329.9	386.3	460.5	543.7
125°	226.6	229.7	234.5	243.2	258.2	280.3	308.7	345.1	394.9	459.6	535.3
127.5°	241.4	243.9	249.5	259.4	275.1	297.4	324.9	358.2	401.6	457.9	524.1
130°	249.5	252.7	259.0	270.8	285.9	308.7	335.6	366.4	406.7	457.2	517.3
132.5°	257.7	260.2	268.5	279.7	296.0	317.6	344.5	374.6	411.1	456.6	510.9
135°	269.2	272.5	280.3	293.8	310.3	330.8	356.9	385.4	417.7	455.7	501.4
137.5°	280.8	283.8	292.5	305.3	322.4	342.0	366.4	392.9	421.6	455.4	493.2
140°	289.0	291.3	300.0	313.5	330.0	349.0	372.7	398.0	424.9	454.8	488.8
142.5°	297.8	300.2	308.3	321.0	337.0	355.4	378.4	401.7	427.4	454.8	485.0
145°	310.3	312.7	320.6	331.6	346.7	364.1	384.6	405.9	428.8	453.2	478.5
147.5°	324.4	325.2	332.1	343.5	356.0	371.6	390.9	409.5	429.6	450.4	472.7
150°	333.3	334.1	340.3	349.8	361.6	376.7	394.0	411.4	429.6	448.5	468.3
152.5°	341.4	341.6	347.9	356.8	367.4	381.1	396.6	412.6	428.3	445.4	463.2
155°	352.9	353.8	358.5	366.4	375.1	386.9	400.3	413.7	426.4	440.6	455.7
157.5°	364.2	364.2	368.6	374.8	382.3	391.6	403.0	413.7	424.3	435.8	447.9
160°	371.1	371.1	374.3	379.8	386.2	394.9	404.2	413.7	422.4	431.9	442.2
162.5°	377.5	376.8	379.3	384.3	389.9	396.7	405.6	413.7	420.6	428.2	437.2
165°	384.6	384.6	386.2	390.1	394.0	398.8	405.9	412.2	417.0	422.4	428.8
167.5°	391.6	390.9	391.6	394.7	396.9	400.5	405.8	410.3	413.1	416.8	421.2
170°	394.9	394.0	394.9	397.2	398.8	401.1	405.1	409.0	410.6	412.9	416.2
172.5°	398.0	397.2	397.4	399.1	400.0	401.7	404.5	407.8	408.1	409.2	411.7
175°	401.1	400.3	400.3	401.1	401.9	401.9	403.5	405.9	405.1	405.1	406.7
177.5°	402.5	401.9	401.3	401.9	401.9	401.9	402.5	403.8	402.5	402.5	403.1
180°	401.9	401.9	401.9	401.9	401.9	401.9	401.9	401.9	401.9	401.9	401.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3
2.5°	1022.5	1024.0	1025.5	1026.2	1026.1	1025.9	1025.8	1025.7
5°	1015.6	1017.4	1019.2	1019.9	1019.5	1019.2	1018.8	1018.4
7.5°	1002.1	1003.2	1004.4	1004.6	1004.1	1003.5	1003.0	1002.4
10°	990.0	990.7	991.4	991.4	990.7	990.0	989.3	988.6
12.5°	974.9	975.3	975.8	975.5	974.5	973.6	972.6	971.6
15°	948.6	948.3	947.9	947.2	945.8	944.6	943.4	942.2
17.5°	916.9	915.8	914.8	913.4	911.6	909.8	907.9	906.1
20°	894.6	893.2	891.8	890.0	887.8	885.4	883.2	880.9
22.5°	870.0	867.9	865.8	863.8	861.9	860.1	858.3	856.4
25°	830.2	827.2	824.3	821.9	820.1	818.4	816.7	814.9
27.5°	789.6	786.0	782.3	779.2	776.7	774.2	771.7	769.2
30°	760.6	756.2	751.8	748.3	745.5	742.7	739.9	737.1
32.5°	730.9	725.9	720.7	716.9	714.3	711.7	708.9	706.3
35°	686.7	680.8	674.9	670.3	667.2	664.0	660.9	657.7
37.5°	639.2	632.7	626.0	621.2	617.9	614.8	611.7	608.5
40°	607.7	600.4	593.0	587.8	584.6	581.5	578.3	575.2
42.5°	576.6	569.2	561.7	556.3	553.0	549.8	546.4	543.2
45°	529.1	520.5	511.9	506.0	502.9	499.8	496.7	493.5
47.5°	481.1	472.2	463.3	457.2	453.7	450.3	446.9	443.3
50°	449.3	440.6	431.8	425.9	422.5	419.2	415.9	412.5
52.5°	417.6	408.7	399.9	393.7	390.2	386.8	383.3	379.9
55°	370.8	361.7	352.6	346.5	343.2	339.8	336.5	333.2
57.5°	325.1	315.9	306.7	300.8	298.3	295.8	293.3	290.7
60°	294.6	285.5	276.4	270.5	267.7	264.9	262.2	259.3
62.5°	264.6	256.2	247.8	242.5	240.2	238.0	235.8	233.6
65°	221.6	214.0	206.5	201.7	199.7	197.5	195.4	193.3
67.5°	182.0	175.5	169.1	164.7	162.4	160.1	157.7	155.4
70°	155.1	149.4	143.5	139.8	138.0	136.3	134.5	132.8
72.5°	131.0	126.0	121.1	117.9	116.2	114.6	113.0	111.4
75°	96.4	92.5	88.5	85.9	84.8	83.8	82.8	81.7
77.5°	68.3	65.9	63.5	62.2	61.9	61.6	61.3	61.0
80°	52.4	51.9	51.3	51.0	50.8	50.6	50.5	50.3
82.5°	40.7	40.3	40.0	39.7	39.5	39.3	39.2	39.0
85°	23.6	23.3	22.9	22.8	22.8	22.8	22.8	22.8
87.5°	11.4	11.4	11.4	11.4	11.7	12.0	12.0	12.1
90°	14.2	15.0	15.8	15.8	16.6	17.4	16.6	16.6
92.5°	155.1	116.7	92.9	77.1	67.8	63.5	60.8	60.8
95°	585.1	462.7	356.9	280.3	241.7	217.1	203.0	192.7
97.5°	864.4	819.0	741.7	659.3	602.7	555.1	531.4	515.0
100°	952.3	968.1	929.4	871.0	802.2	754.1	730.4	724.1
102.5°	947.9	1026.2	1037.4	1013.1	971.0	936.0	911.1	906.1
105°	884.4	1021.0	1099.1	1131.6	1133.2	1126.8	1115.8	1111.1
107.5°	794.3	939.7	1049.8	1120.1	1159.2	1177.2	1185.1	1187.1
110°	739.9	876.5	991.0	1077.8	1133.9	1167.1	1181.3	1188.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	700.1	820.9	929.1	1015.9	1079.5	1119.7	1139.6	1151.1
115°	660.1	757.3	849.6	925.4	987.8	1035.2	1060.5	1066.8
117.5°	640.6	720.9	793.6	857.9	911.1	950.9	976.4	981.4
120°	631.7	705.2	768.3	824.4	869.4	904.1	924.6	933.3
122.5°	624.1	695.0	752.6	801.6	839.7	869.4	886.8	895.4
125°	611.2	679.1	733.6	777.0	808.6	831.5	846.5	851.2
127.5°	595.4	660.2	714.6	755.9	787.6	808.0	820.6	825.4
130°	582.8	645.1	698.8	740.6	773.1	792.8	805.5	810.2
132.5°	569.5	628.0	680.5	722.4	754.1	776.4	788.4	793.1
135°	551.2	602.5	650.7	690.1	721.8	743.9	756.5	761.2
137.5°	534.6	578.0	618.6	654.3	683.8	705.6	716.0	721.8
140°	525.1	562.2	597.7	631.0	658.5	675.9	687.0	693.3
142.5°	516.2	549.0	579.5	608.1	632.7	648.7	658.5	663.0
145°	503.8	530.7	554.3	576.4	596.2	609.6	617.5	621.5
147.5°	493.5	514.8	533.8	551.2	565.7	577.2	583.2	584.6
150°	487.2	505.3	521.2	535.3	548.1	558.3	563.0	563.8
152.5°	480.3	495.8	510.4	522.1	532.8	541.2	544.0	544.8
155°	469.8	482.5	494.3	503.8	511.7	518.0	520.4	520.4
157.5°	458.6	469.2	479.2	486.8	492.7	497.5	498.9	498.9
160°	451.7	460.4	469.1	475.3	480.1	484.8	485.6	485.6
162.5°	444.7	452.1	459.0	464.6	468.1	472.8	473.6	473.0
165°	435.0	439.8	445.4	449.3	452.4	455.7	454.8	454.0
167.5°	425.8	429.4	433.8	436.2	437.8	439.8	439.7	439.0
170°	420.1	422.4	425.7	428.0	429.6	430.3	429.6	429.6
172.5°	415.1	416.8	418.7	420.4	421.3	422.1	421.3	420.1
175°	408.3	409.0	410.6	410.6	410.6	412.2	410.6	409.0
177.5°	403.8	404.5	404.5	405.1	404.5	405.1	403.8	402.5
180°	401.9	401.9	401.9	401.9	401.9	401.9	401.9	401.9

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