

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: P331704-927

Luminaire Tested: **SA2XXRDIP-C675D1080U927-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331704-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C675D1080U927-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5172.2 lumens
Efficiency: N/A
Efficacy: 90.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

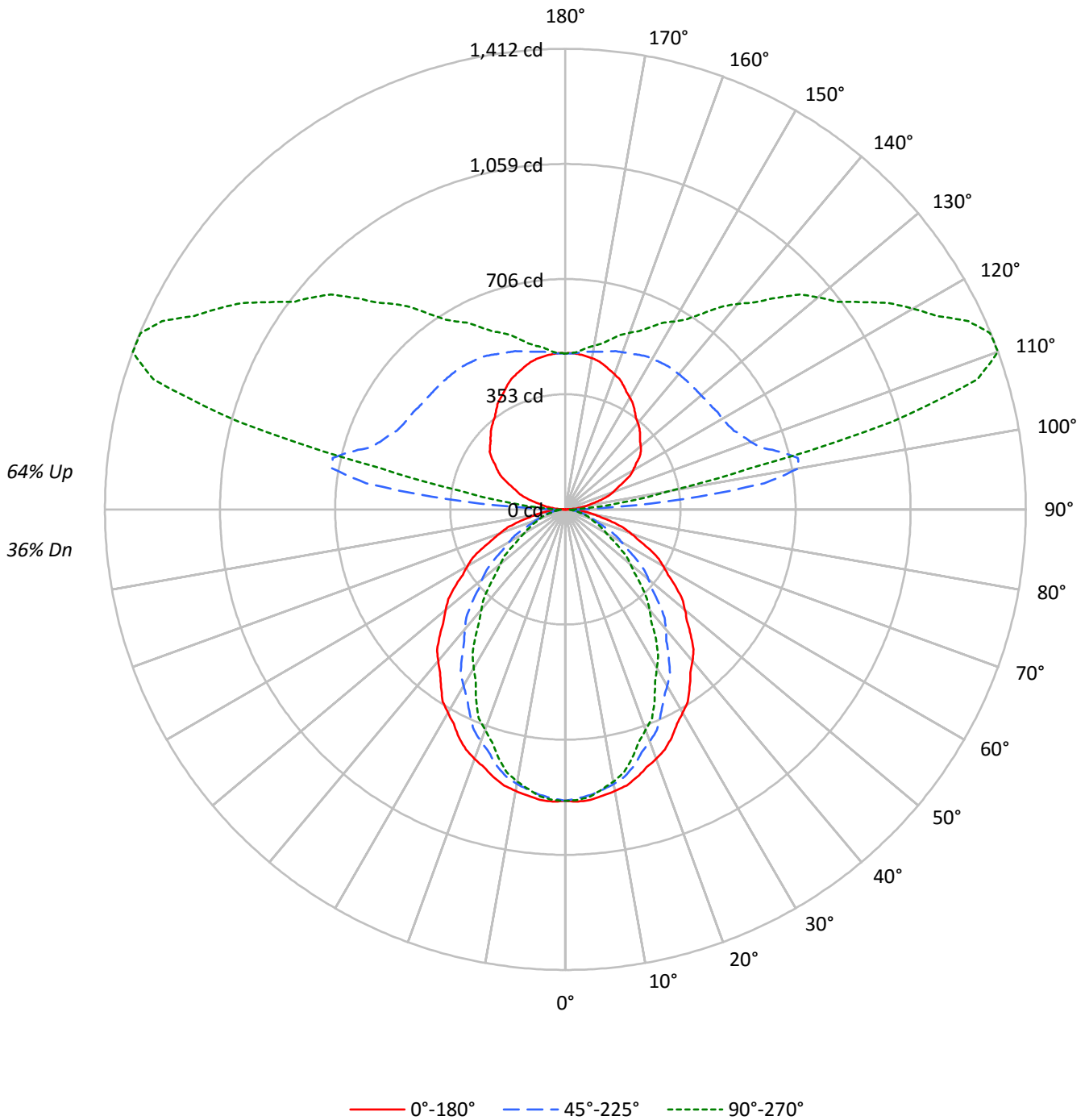
Input Watts (W): 56.9
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	104	104	104	104	94	94	94	94	75	75	75	58	58	58	43	43	43	36
1	95	91	87	84	86	82	79	76	66	64	62	52	50	49	38	38	37	31
2	87	80	74	69	78	72	67	63	59	55	52	46	44	42	34	33	32	26
3	79	70	63	58	71	64	58	53	52	48	44	41	38	36	31	29	27	23
4	73	62	55	49	65	57	50	45	46	42	38	37	33	31	28	25	24	20
5	67	56	48	42	60	51	44	39	42	37	33	33	29	27	25	23	21	17
6	61	50	42	37	56	46	39	34	37	32	29	30	26	24	23	20	19	15
7	57	45	37	32	51	41	35	30	34	29	25	27	24	21	21	18	17	14
8	53	41	33	28	48	38	31	26	31	26	23	25	21	19	19	17	15	12
9	49	37	30	25	44	34	28	24	28	24	20	23	19	17	18	15	14	11
10	46	34	27	23	42	31	25	21	26	21	18	21	18	15	17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14428	14428	14428
5°	14483	14248	14326
10°	14372	14014	13895
15°	14206	13600	13207
20°	13979	13005	12352
25°	13744	12332	11526
30°	13420	11639	10465
35°	13102	10886	9532
40°	12783	10108	8454
45°	12408	9232	7478
50°	12024	8349	6521
55°	11634	7398	5599
60°	11176	6397	4647
65°	10659	5375	4233
70°	10041	4428	3895
75°	9283	4036	3631
80°	8201	3608	3310
85°	6447	2853	2853



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.6	1.6
10°-20°	229.7	4.4
20°-30°	322.5	6.2
30°-40°	351.7	6.8
40°-50°	323.4	6.3
50°-60°	254.0	4.9
60°-70°	165.6	3.2
70°-80°	85.4	1.7
80°-90°	26.5	0.5
90°-100°	191.3	3.7
100°-110°	649.3	12.6
110°-120°	689.8	13.3
120°-130°	567.8	11.0
130°-140°	456.0	8.8
140°-150°	344.6	6.7
150°-160°	242.2	4.7
160°-170°	142.6	2.8
170°-180°	46.4	0.9
0°-30°	635.8	12.3
0°-40°	987.5	19.1
0°-60°	1564.8	30.3
0°-90°	1842.3	35.6
90°-120°	1530.4	29.6
90°-150°	2898.8	56.0
90°-180°	3330.0	64.4
0°-180°	5172.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	894	894	894	894	894	
5°	894	889	879	886	884	85
15°	850	840	814	799	790	239
25°	772	744	692	660	647	355
35°	665	622	552	503	484	416
45°	543	488	404	349	328	419
55°	413	349	263	216	199	369
65°	279	213	141	115	111	277
75°	149	94	65	59	58	158
85°	35	19	15	15	15	41
90°	1	12	31	30	30	3
95°	32	79	361	136	105	34
105°	112	169	682	1219	1037	119
115°	198	250	570	1177	1365	196
125°	276	327	548	954	1107	245
135°	324	386	542	802	918	250
145°	370	425	539	670	732	232
155°	421	454	524	592	616	193
165°	458	472	502	532	540	129
175°	478	478	482	488	487	45
180°	479	479	479	479	479	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	893.6	893.6	893.6	893.6	893.6	893.6	893.6	893.6	893.6	893.6	893.6
2.5°	896.8	896.1	895.4	894.7	894.0	892.8	891.2	889.6	888.1	886.5	888.0
5°	893.6	892.7	891.8	890.9	890.0	888.4	886.1	883.8	881.4	879.1	880.7
7.5°	884.4	883.3	882.2	881.1	880.0	878.0	875.3	872.6	869.8	867.1	867.5
10°	876.6	875.4	874.1	872.8	871.6	869.2	865.5	862.0	858.4	854.8	854.3
12.5°	866.9	865.4	863.8	862.3	860.7	857.7	853.1	848.5	843.8	839.2	838.3
15°	849.9	848.0	846.0	844.0	842.0	838.0	831.9	825.8	819.7	813.6	810.2
17.5°	829.1	826.1	823.1	820.0	817.0	811.6	803.7	795.9	788.1	780.2	776.2
20°	813.6	809.9	806.4	802.8	799.2	792.9	783.9	774.9	766.0	756.9	752.4
22.5°	796.7	792.7	788.7	784.7	780.6	773.6	763.4	753.3	743.1	733.0	727.2
25°	771.5	765.7	760.0	754.2	748.5	739.7	727.9	716.0	704.1	692.2	684.8
27.5°	741.1	734.8	728.6	722.3	716.1	706.2	692.9	679.5	666.1	652.8	644.2
30°	719.8	712.9	706.1	699.3	692.4	681.8	667.4	653.1	638.7	624.3	615.1
32.5°	699.0	691.0	683.1	675.1	667.1	655.8	641.1	626.5	611.8	597.1	586.7
35°	664.7	655.6	646.4	637.2	628.1	615.6	599.8	584.0	568.2	552.3	541.0
37.5°	630.5	620.4	610.3	600.2	590.2	576.7	559.9	543.0	526.2	509.3	496.9
40°	606.5	595.7	584.9	574.2	563.4	549.3	531.9	514.4	497.0	479.6	466.8
42.5°	581.9	570.6	559.2	547.9	536.5	521.8	503.8	485.8	467.8	449.8	436.6
45°	543.4	531.4	519.4	507.3	495.3	479.8	461.0	442.1	423.2	404.3	391.6
47.5°	505.9	493.1	480.4	467.6	454.9	438.8	419.3	399.8	380.3	360.8	348.2
50°	478.7	466.0	453.2	440.5	427.7	411.5	391.7	371.9	352.1	332.4	320.0
52.5°	452.3	438.9	425.6	412.3	398.9	382.5	363.2	343.9	324.6	305.2	293.3
55°	413.3	399.3	385.2	371.2	357.2	340.5	321.1	301.7	282.3	262.8	252.1
57.5°	373.3	358.9	344.5	330.2	315.8	299.3	280.6	262.0	243.3	224.7	214.8
60°	346.1	331.8	317.3	303.0	288.6	272.2	253.7	235.1	216.7	198.1	188.9
62.5°	319.6	305.2	290.8	276.5	262.1	246.1	228.5	210.8	193.1	175.5	166.8
65°	279.0	264.4	249.9	235.4	220.8	205.4	189.3	173.1	156.9	140.7	134.6
67.5°	239.9	225.4	211.0	196.5	182.0	167.5	153.0	138.5	123.9	109.3	106.5
70°	212.7	198.7	184.7	170.6	156.6	143.4	131.0	118.6	106.2	93.8	92.0
72.5°	186.8	173.3	159.9	146.5	133.0	121.4	111.4	101.4	91.5	81.5	80.0
75°	148.8	136.3	123.7	111.1	98.5	89.1	83.0	76.9	70.8	64.7	63.5
77.5°	111.5	100.4	89.4	78.3	67.3	60.3	57.4	54.4	51.5	48.6	47.8
80°	88.2	79.0	69.8	60.7	51.5	46.0	44.2	42.4	40.6	38.8	38.1
82.5°	66.8	59.7	52.5	45.3	38.2	34.0	32.8	31.5	30.3	29.2	28.7
85°	34.8	31.0	27.3	23.4	19.6	17.5	17.0	16.5	15.9	15.4	15.4
87.5°	10.5	9.9	9.5	8.7	7.9	7.9	8.9	10.1	11.2	11.4	11.1
90°	1.0	3.6	7.4	9.2	11.0	13.8	18.4	24.9	30.3	31.3	30.3
92.5°	11.2	16.2	22.8	26.9	33.1	41.7	62.6	91.8	118.0	119.6	101.1
95°	32.2	35.9	45.1	53.4	68.1	90.2	132.5	212.5	319.3	360.8	315.7
97.5°	52.4	57.4	67.2	79.7	96.6	121.7	174.8	286.4	463.8	615.8	646.0
100°	70.8	73.6	81.9	96.6	115.0	140.8	189.6	301.8	500.6	727.0	859.5
102.5°	87.8	89.8	98.1	112.8	132.0	157.7	202.8	302.6	486.6	730.7	939.1
105°	112.3	116.0	122.4	136.2	156.5	182.2	225.5	307.4	459.2	681.9	926.7
107.5°	138.8	141.7	148.0	160.7	180.8	206.7	248.7	320.0	445.6	629.6	845.9
110°	156.5	160.1	165.6	177.6	196.9	223.6	264.1	330.3	442.7	604.6	795.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	172.6	176.3	182.6	193.8	212.4	239.8	278.8	341.4	443.4	588.4	759.8
115°	197.9	202.5	207.9	219.0	237.4	262.3	301.8	358.0	447.3	570.5	716.0
117.5°	224.0	227.7	233.2	243.0	260.6	286.4	323.0	375.7	453.8	561.9	688.3
120°	240.2	243.8	249.4	257.7	276.1	301.8	337.7	387.5	458.3	556.7	673.6
122.5°	255.6	258.6	264.1	273.1	291.5	318.1	351.7	397.8	463.4	553.8	661.1
125°	276.1	278.8	284.4	295.4	313.8	339.6	372.7	414.2	471.2	548.5	643.3
127.5°	292.2	296.0	303.7	315.8	333.5	360.0	392.2	429.4	479.1	545.3	626.7
130°	301.8	305.5	314.7	327.6	346.0	371.8	404.0	438.9	485.0	543.8	615.7
132.5°	310.7	315.1	325.0	338.7	357.8	383.6	414.3	448.5	490.8	543.1	606.8
135°	323.9	327.6	338.7	352.4	373.6	399.4	428.8	461.1	497.9	542.0	594.5
137.5°	336.4	340.9	351.9	366.6	387.6	411.5	440.6	470.6	504.1	541.9	585.8
140°	346.0	349.7	360.8	375.5	395.7	419.6	447.3	475.8	507.1	541.1	580.7
142.5°	355.6	358.5	368.8	383.6	403.1	425.6	452.4	480.2	509.3	541.1	575.5
145°	369.9	373.6	382.9	396.6	415.0	435.3	460.1	485.9	511.7	539.2	568.7
147.5°	385.4	388.2	397.0	409.7	425.0	443.0	466.4	489.0	512.4	536.0	561.7
150°	395.7	398.5	405.8	417.8	431.6	448.1	469.4	490.5	511.7	533.8	555.8
152.5°	406.0	407.3	414.6	425.2	438.2	453.3	472.3	491.2	510.2	530.0	550.6
155°	420.6	421.4	427.0	437.1	447.3	461.1	476.7	492.3	507.9	523.6	541.1
157.5°	432.7	433.6	438.1	446.9	455.0	466.6	479.8	492.3	503.7	517.0	532.1
160°	440.8	441.7	445.4	452.7	460.1	470.2	481.3	492.3	501.5	512.6	525.5
162.5°	448.9	448.4	452.0	457.9	464.5	472.5	482.0	491.6	499.3	508.9	519.6
165°	458.3	457.4	459.2	464.7	469.4	474.8	483.2	489.6	495.1	501.5	509.8
167.5°	466.0	464.9	466.6	470.1	473.4	476.9	482.9	488.3	490.8	495.1	500.3
170°	471.2	469.4	470.2	473.0	474.8	477.6	482.2	486.8	488.6	491.4	495.1
172.5°	474.1	473.0	472.5	475.2	476.3	478.3	481.5	484.6	485.7	487.0	490.0
175°	477.6	476.7	475.8	477.6	477.6	478.6	480.4	482.2	481.3	482.2	483.2
177.5°	479.3	477.8	477.1	478.6	478.6	478.6	479.3	480.8	479.3	478.6	479.3
180°	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	893.6	893.6	893.6	893.6	893.6	893.6	893.6	893.6
2.5°	889.4	890.8	892.2	892.8	892.6	892.2	892.0	891.7
5°	882.3	883.9	885.5	886.1	885.5	884.9	884.5	883.9
7.5°	868.0	868.5	868.9	868.7	867.8	866.9	865.9	865.0
10°	853.7	853.2	852.6	851.8	850.7	849.7	848.6	847.5
12.5°	837.3	836.4	835.4	834.0	832.2	830.4	828.6	826.8
15°	806.8	803.3	799.9	797.3	795.5	793.7	791.9	790.1
17.5°	772.1	768.0	764.0	760.4	757.3	754.2	751.1	748.1
20°	748.0	743.5	738.9	734.7	730.8	726.8	722.9	718.9
22.5°	721.4	715.7	709.9	705.5	702.5	699.6	696.6	693.7
25°	677.5	670.1	662.7	657.7	655.1	652.4	649.7	647.0
27.5°	635.6	627.0	618.5	612.0	607.7	603.4	599.1	594.8
30°	606.0	596.8	587.6	580.7	575.8	570.9	566.1	561.3
32.5°	576.2	565.8	555.3	547.8	543.2	538.7	534.1	529.6
35°	529.7	518.4	507.1	499.4	495.4	491.5	487.6	483.6
37.5°	484.3	471.9	459.5	450.9	446.4	441.9	437.4	432.8
40°	454.0	441.2	428.5	419.8	415.1	410.4	405.8	401.1
42.5°	423.4	410.2	397.0	388.2	383.7	379.1	374.6	370.0
45°	378.8	366.1	353.3	344.8	340.5	336.1	331.8	327.5
47.5°	335.5	322.8	310.1	301.8	297.9	294.0	290.0	286.1
50°	307.6	295.2	282.8	274.6	270.9	267.1	263.4	259.6
52.5°	281.3	269.3	257.3	249.6	246.1	242.6	239.2	235.7
55°	241.3	230.4	219.7	212.6	209.2	205.7	202.3	198.9
57.5°	204.9	195.0	185.1	178.7	175.9	173.0	170.1	167.2
60°	179.8	170.6	161.4	155.4	152.6	149.7	146.8	143.9
62.5°	158.0	149.2	140.5	135.3	133.6	131.9	130.2	128.4
65°	128.5	122.4	116.3	113.0	112.4	111.9	111.3	110.8
67.5°	103.7	100.9	98.2	96.4	95.9	95.3	94.7	94.1
70°	90.2	88.4	86.6	85.4	84.6	83.9	83.2	82.5
72.5°	78.5	77.0	75.5	74.5	74.1	73.7	73.2	72.8
75°	62.2	60.9	59.7	58.9	58.8	58.6	58.4	58.2
77.5°	47.1	46.3	45.6	45.2	44.8	44.6	44.3	44.0
80°	37.4	36.7	36.0	35.6	35.6	35.6	35.6	35.6
82.5°	28.3	27.8	27.4	27.2	27.2	27.2	27.2	27.2
85°	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4
87.5°	10.8	10.3	10.5	10.6	10.6	10.6	10.6	10.6
90°	29.5	27.6	29.5	30.3	30.3	30.3	30.3	30.3
92.5°	80.2	68.8	61.1	55.4	54.7	51.7	52.4	51.0
95°	241.1	185.0	146.3	126.0	114.1	106.8	104.0	104.9
97.5°	562.6	460.3	360.8	294.3	250.3	227.7	214.2	206.5
100°	840.2	726.1	600.0	488.6	412.3	372.7	346.0	329.5
102.5°	1022.1	996.2	904.0	786.1	703.1	635.6	602.2	579.8
105°	1118.1	1222.1	1234.1	1203.7	1146.6	1089.6	1050.0	1037.1
107.5°	1048.9	1205.5	1301.2	1345.8	1353.0	1349.8	1341.9	1324.8
110°	989.3	1154.0	1271.8	1347.3	1386.8	1404.3	1412.6	1411.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	934.8	1092.9	1218.8	1305.3	1360.3	1389.6	1405.3	1410.2
115°	867.8	1009.6	1130.0	1224.9	1290.2	1332.5	1356.5	1364.8
117.5°	817.4	941.8	1051.1	1140.0	1206.7	1251.3	1276.6	1283.6
120°	792.3	906.4	1004.0	1087.7	1152.1	1195.4	1222.1	1231.3
122.5°	772.5	877.0	969.4	1045.0	1102.8	1145.3	1169.1	1176.8
125°	743.5	838.4	919.3	988.3	1041.7	1076.7	1099.7	1107.1
127.5°	715.0	800.8	877.2	940.9	987.5	1020.2	1040.1	1046.0
130°	696.6	775.8	848.5	909.2	954.3	985.6	1004.0	1011.4
132.5°	679.0	752.3	819.0	876.1	920.4	951.7	968.7	975.3
135°	654.3	715.0	775.8	827.3	866.9	897.2	913.8	917.5
137.5°	634.6	685.4	733.6	778.6	814.6	840.7	855.3	860.8
140°	622.1	666.3	708.6	749.1	778.6	802.5	816.3	821.8
142.5°	611.8	649.4	685.8	719.6	747.6	769.4	781.6	782.8
145°	597.2	627.6	656.2	682.9	704.9	720.6	729.8	732.5
147.5°	586.1	610.0	632.2	651.7	669.9	682.5	688.7	690.4
150°	577.9	598.2	617.5	634.1	647.8	658.9	664.4	665.4
152.5°	569.8	588.6	605.0	619.3	630.2	639.8	643.8	644.0
155°	558.6	573.3	587.1	597.2	607.4	613.8	617.5	615.7
157.5°	545.5	557.9	569.4	577.3	584.6	589.9	591.5	591.5
160°	537.4	547.6	557.7	564.1	570.5	575.1	576.1	576.1
162.5°	529.3	538.0	546.6	551.6	558.0	561.2	562.1	561.3
165°	517.2	523.6	530.0	533.8	537.4	541.1	541.1	540.2
167.5°	505.6	510.6	515.0	518.3	519.9	522.0	521.8	520.7
170°	499.7	502.5	506.1	507.9	508.9	511.7	510.7	508.9
172.5°	493.1	495.1	498.0	499.2	500.1	501.4	500.4	499.3
175°	485.9	486.8	487.7	488.6	488.6	489.6	488.6	486.8
177.5°	480.8	480.8	481.5	481.5	481.5	481.5	480.8	479.3
180°	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6

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