

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: P331371-840

Luminaire Tested: **SA2XXDIP-C675D1080U840-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331371-840
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: SA2XXDIP-C675D1080U840-4F0-1E-UDD-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

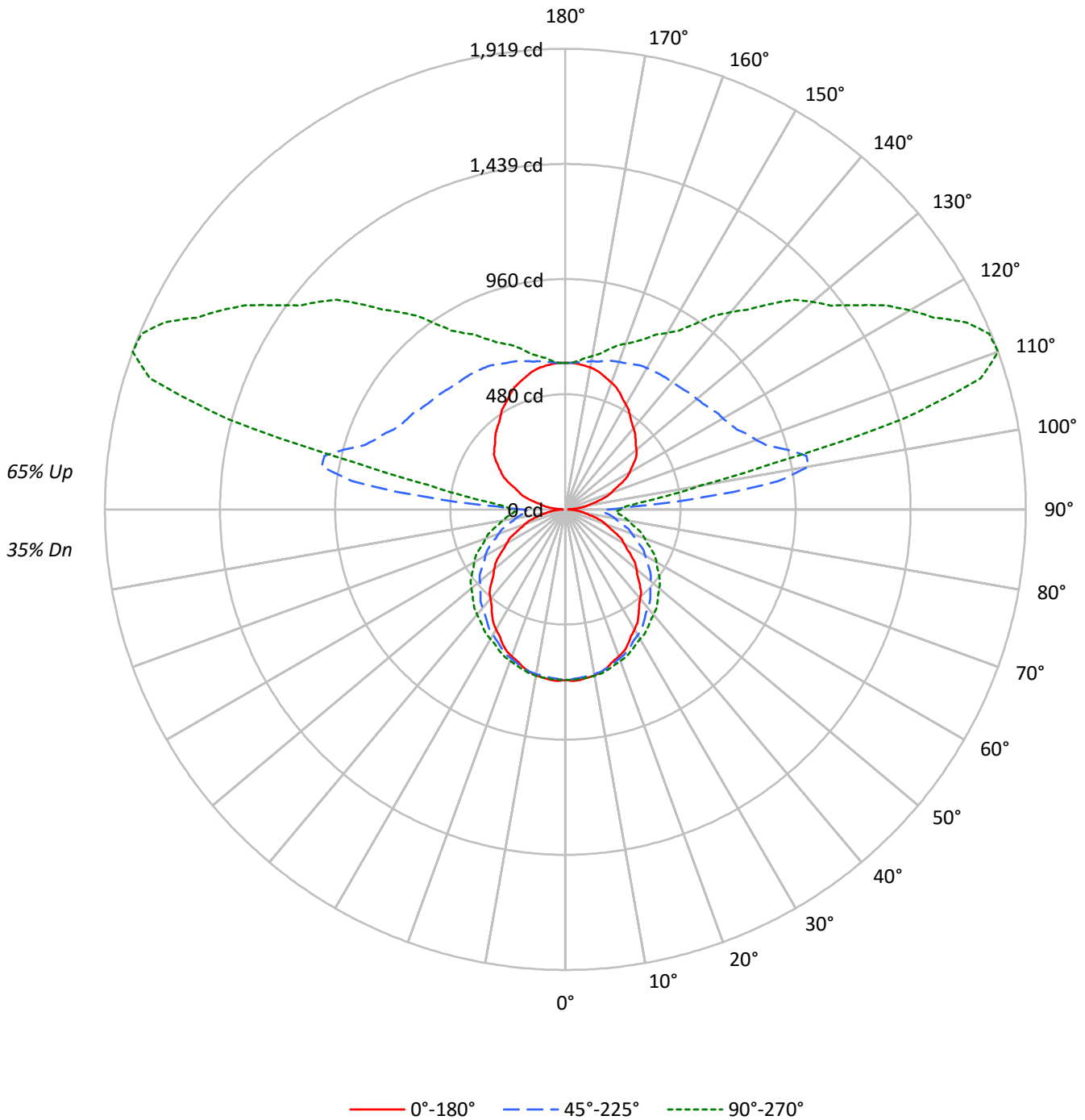
Lumens per Lamp: N/A
Luminaire Lumens: 6964.3 lumens
Efficiency: N/A
Efficacy: 122.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

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	103	103	103	103	93	93	93	93	75	75	75	58	58	58	42	42	42	35
1	93	89	84	81	84	80	76	73	64	61	59	49	47	46	35	34	33	27
2	84	77	70	65	76	69	64	59	55	51	48	42	40	37	31	29	27	22
3	77	67	60	54	69	61	54	49	48	44	40	37	34	31	27	25	23	18
4	70	59	51	45	63	53	46	41	43	38	34	33	29	26	24	21	19	15
5	64	52	44	38	57	47	40	35	38	33	29	29	26	23	21	19	17	13
6	59	47	39	33	53	42	35	30	34	29	25	26	23	20	19	17	14	11
7	54	42	34	28	49	38	31	26	31	25	22	24	20	17	17	15	13	10
8	50	38	30	25	45	35	28	23	28	23	19	22	18	15	16	13	11	9
9	47	35	27	22	42	31	25	20	26	20	17	20	16	14	15	12	10	8
10	44	32	24	20	39	29	22	18	23	18	15	18	15	12	14	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11485	11485	11485
5°	11541	11055	11013
10°	11469	10729	10608
15°	11310	10384	10181
20°	11112	10013	9772
25°	10913	9655	9399
30°	10635	9288	9023
35°	10355	8933	8760
40°	10057	8630	8496
45°	9777	8361	8270
50°	9476	8116	8048
55°	9160	7855	7822
60°	8770	7583	7583
65°	8367	7262	7299
70°	7917	6920	6990
75°	7339	6581	6708
80°	6436	6238	6424
85°	5566	5939	6199



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.4	1.0
10°-20°	193.3	2.8
20°-30°	292.9	4.2
30°-40°	356.7	5.1
40°-50°	383.8	5.5
50°-60°	372.7	5.4
60°-70°	325.4	4.7
70°-80°	250.5	3.6
80°-90°	173.6	2.5
90°-100°	359.8	5.2
100°-110°	912.3	13.1
110°-120°	935.2	13.4
120°-130°	755.0	10.8
130°-140°	594.4	8.5
140°-150°	441.6	6.3
150°-160°	308.7	4.4
160°-170°	181.7	2.6
170°-180°	59.1	0.8
0°-30°	553.6	7.9
0°-40°	910.3	13.1
0°-60°	1666.8	23.9
0°-90°	2416.5	34.7
90°-120°	2207.3	31.7
90°-150°	3998.2	57.4
90°-180°	4548.0	65.3
0°-180°	6964.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	711	711	711	711	711	
5°	713	710	704	710	709	68
15°	680	682	682	691	691	192
25°	618	626	635	647	651	284
35°	533	551	570	592	600	333
45°	437	465	501	532	543	337
55°	335	373	426	462	476	299
65°	229	280	340	381	396	227
75°	127	185	250	293	308	134
85°	37	101	167	209	225	40
90°	12	86	176	214	228	9
95°	49	158	578	330	304	50
105°	148	252	958	1677	1458	158
115°	256	336	789	1593	1844	254
125°	354	420	734	1278	1484	315
135°	414	494	702	1054	1211	320
145°	472	542	687	860	945	296
155°	536	579	668	755	785	247
165°	584	602	639	678	689	165
175°	609	609	615	622	621	58
180°	610	610	610	610	610	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3
2.5°	715.5	714.9	714.4	713.8	713.3	712.4	711.0	709.7	708.5	707.2	708.1
5°	713.4	712.7	712.1	711.3	710.6	709.6	708.2	706.9	705.5	704.1	705.5
7.5°	707.0	706.5	706.1	705.6	705.2	704.4	703.4	702.3	701.3	700.2	701.9
10°	702.1	701.6	701.1	700.6	700.2	699.6	698.9	698.3	697.6	696.9	698.7
12.5°	693.8	693.9	694.0	694.1	694.2	694.0	693.5	693.0	692.5	692.0	693.8
15°	680.4	680.9	681.4	681.8	682.3	682.5	682.5	682.5	682.5	682.5	684.5
17.5°	663.1	664.1	665.0	666.0	666.9	667.8	668.5	669.2	669.9	670.8	672.9
20°	651.6	652.7	653.8	655.0	656.1	657.1	658.0	659.0	659.9	660.9	663.4
22.5°	639.1	640.5	641.9	643.2	644.5	645.8	647.1	648.3	649.6	651.0	653.5
25°	618.5	620.2	621.8	623.4	625.0	626.8	628.8	631.0	633.0	635.0	637.8
27.5°	593.8	596.4	599.1	601.7	604.3	606.8	609.3	611.7	614.1	616.5	620.0
30°	577.3	580.3	583.3	586.2	589.3	592.2	595.2	598.1	601.2	604.1	607.7
32.5°	559.2	562.5	565.8	569.2	572.6	576.0	579.6	583.0	586.5	590.1	594.3
35°	533.0	536.8	540.8	544.6	548.6	552.7	557.0	561.4	565.7	570.1	575.1
37.5°	504.5	509.1	513.5	518.0	522.5	527.6	533.2	538.9	544.4	550.1	555.7
40°	485.5	490.6	495.6	500.7	505.7	511.3	517.6	523.7	529.9	536.0	542.0
42.5°	467.5	472.4	477.5	482.5	487.6	493.6	500.8	507.9	514.9	522.1	528.6
45°	437.1	443.3	449.5	455.7	461.8	469.0	477.0	485.0	493.0	501.0	508.2
47.5°	407.2	413.9	420.7	427.4	434.1	442.2	451.6	461.0	470.4	479.8	487.3
50°	386.6	393.7	400.8	407.9	415.0	423.7	434.0	444.3	454.6	464.9	472.7
52.5°	366.8	374.3	381.7	389.2	396.7	405.9	416.7	427.6	438.4	449.3	457.3
55°	335.1	343.3	351.5	359.8	368.0	378.1	390.0	401.9	413.8	425.8	434.0
57.5°	303.7	313.1	322.3	331.6	340.9	351.6	363.8	375.9	388.1	400.2	409.1
60°	281.4	291.2	301.1	311.0	320.8	332.3	345.4	358.4	371.4	384.6	393.2
62.5°	261.7	271.9	282.1	292.3	302.6	314.2	327.2	340.2	353.4	366.4	375.7
65°	228.8	240.0	251.4	262.6	273.8	286.1	299.6	313.2	326.7	340.2	349.6
67.5°	198.7	210.5	222.3	234.0	245.7	258.4	272.3	286.1	299.9	313.8	323.3
70°	177.3	189.2	201.2	213.1	225.0	238.0	252.3	266.4	280.6	294.9	304.7
72.5°	157.5	169.8	182.1	194.4	206.6	219.9	234.4	248.7	263.2	277.5	287.2
75°	126.8	139.7	152.5	165.3	178.1	191.9	206.5	221.2	235.8	250.5	260.3
77.5°	97.1	110.6	124.0	137.3	150.8	165.0	179.9	194.8	209.6	224.5	234.4
80°	77.4	91.3	105.2	119.3	133.2	147.6	162.6	177.4	192.3	207.2	216.8
82.5°	60.8	74.6	88.4	102.2	116.0	130.4	145.5	160.6	175.6	190.8	200.4
85°	37.2	51.3	65.5	79.7	93.9	108.4	123.0	137.6	152.4	167.0	176.6
87.5°	20.4	34.8	49.4	63.5	77.7	92.5	108.4	124.6	140.7	155.6	164.7
90°	11.5	28.3	46.3	61.9	77.6	95.0	115.5	138.5	160.2	175.9	184.0
92.5°	23.8	42.5	63.3	80.9	101.2	125.4	166.1	217.5	265.0	281.1	266.4
95°	49.3	64.7	87.3	108.6	138.1	178.5	246.2	362.0	511.9	578.5	529.7
97.5°	74.1	90.0	112.0	137.5	168.7	212.0	293.0	448.4	687.7	894.7	941.7
100°	97.6	109.6	128.6	155.8	187.7	231.3	306.3	462.2	728.4	1029.9	1207.3
102.5°	118.4	128.7	146.9	173.5	205.6	248.5	318.5	458.1	705.2	1028.7	1302.7
105°	148.2	159.7	174.5	198.7	231.2	273.3	340.3	456.7	662.2	958.0	1278.0
107.5°	181.9	191.0	204.2	225.7	256.6	298.0	362.9	465.4	636.8	882.8	1166.3
110°	203.6	212.9	224.5	244.3	273.5	315.4	378.3	473.9	628.3	846.0	1096.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	224.2	232.8	244.6	262.8	290.2	332.5	392.9	483.3	624.0	819.6	1045.3
115°	256.3	264.7	274.3	290.8	316.9	355.0	415.8	497.6	621.7	789.2	981.4
117.5°	288.6	295.0	303.7	317.7	341.9	380.3	436.6	513.2	622.5	769.7	937.7
120°	309.3	314.9	322.9	334.4	358.7	396.6	451.5	524.0	623.5	758.2	913.6
122.5°	329.0	333.2	340.5	352.3	376.2	414.4	466.1	533.3	625.7	749.5	892.5
125°	354.0	357.5	364.6	378.6	402.1	438.6	488.2	548.3	628.3	734.3	861.2
127.5°	374.7	379.1	388.7	403.9	426.3	462.9	509.9	563.2	632.5	722.9	832.2
130°	386.9	391.3	402.8	419.0	442.2	477.4	523.2	572.6	636.1	716.0	813.0
132.5°	398.1	403.5	416.0	433.1	457.3	491.8	534.7	582.1	639.7	710.1	796.6
135°	413.9	418.7	432.7	450.3	477.4	511.3	551.2	594.5	643.7	702.4	774.0
137.5°	429.9	435.6	449.6	468.3	494.9	525.9	564.0	603.3	647.0	696.1	756.4
140°	442.1	446.6	460.4	479.0	504.5	535.1	570.9	607.6	648.0	691.9	746.0
142.5°	454.3	457.9	470.8	489.3	513.9	542.5	576.8	612.4	649.5	690.2	737.0
145°	471.6	476.3	488.1	505.6	529.1	554.9	586.5	619.5	652.3	687.4	726.4
147.5°	491.3	494.8	506.0	522.3	541.8	564.7	594.5	623.4	653.2	683.3	716.3
150°	504.4	508.0	517.4	532.6	550.2	571.3	598.3	625.3	652.3	680.4	708.5
152.5°	517.6	519.3	528.6	542.0	558.7	577.8	602.1	626.2	650.4	675.7	702.0
155°	536.1	537.2	544.3	557.2	570.2	587.7	607.6	627.6	647.5	667.5	689.8
157.5°	551.6	552.8	558.5	569.7	580.0	594.8	611.7	627.6	642.2	659.0	678.3
160°	561.9	563.1	567.7	577.1	586.5	599.5	613.6	627.6	639.3	653.5	669.8
162.5°	572.3	571.6	576.2	583.7	592.2	602.3	614.5	626.7	636.5	648.7	662.4
165°	584.2	583.1	585.4	592.4	598.3	605.3	615.9	624.1	631.2	639.3	649.9
167.5°	594.1	592.7	594.8	599.3	603.5	607.9	615.6	622.5	625.7	631.2	637.7
170°	600.7	598.3	599.5	603.0	605.3	608.8	614.7	620.6	622.9	626.4	631.2
172.5°	604.4	603.0	602.3	605.8	607.2	609.8	613.8	617.7	619.1	620.9	624.6
175°	608.8	607.6	606.5	608.8	608.8	610.1	612.4	614.7	613.6	614.7	615.9
177.5°	611.0	609.0	608.1	610.1	610.1	610.1	611.0	612.9	611.0	610.1	611.0
180°	610.1	610.1	610.1	610.1	610.1	610.1	610.1	610.1	610.1	610.1	610.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3
2.5°	709.0	709.9	710.8	711.1	710.7	710.4	710.0	709.7
5°	706.9	708.2	709.6	710.2	709.9	709.7	709.5	709.2
7.5°	703.5	705.2	706.8	707.5	707.3	707.0	706.8	706.6
10°	700.5	702.4	704.3	705.0	704.8	704.6	704.4	704.1
12.5°	695.6	697.4	699.3	700.0	699.8	699.6	699.4	699.1
15°	686.6	688.6	690.7	691.7	691.5	691.2	690.9	690.7
17.5°	675.0	677.2	679.3	680.4	680.4	680.4	680.4	680.4
20°	665.9	668.4	670.9	672.2	672.2	672.2	672.2	672.2
22.5°	656.0	658.5	661.0	662.5	662.8	663.2	663.6	663.9
25°	640.6	643.3	646.0	647.7	648.4	649.1	649.8	650.6
27.5°	623.5	626.9	630.5	632.4	632.9	633.4	633.9	634.4
30°	611.5	615.1	618.7	621.0	621.7	622.4	623.0	623.7
32.5°	598.5	602.8	606.9	609.7	611.0	612.2	613.4	614.6
35°	580.2	585.2	590.3	593.6	595.2	596.8	598.3	600.0
37.5°	561.3	566.8	572.5	576.1	577.8	579.5	581.2	582.9
40°	548.0	553.9	559.9	563.9	565.9	568.0	570.1	572.2
42.5°	535.0	541.6	548.1	552.4	554.4	556.5	558.6	560.6
45°	515.2	522.3	529.5	534.1	536.4	538.8	541.0	543.3
47.5°	494.6	502.1	509.5	514.4	516.9	519.5	522.0	524.5
50°	480.5	488.3	496.1	501.3	503.8	506.3	508.8	511.3
52.5°	465.2	473.2	481.2	486.6	489.2	491.9	494.6	497.4
55°	442.2	450.5	458.8	464.3	467.4	470.3	473.3	476.3
57.5°	418.0	426.9	435.8	441.7	444.7	447.8	450.8	453.8
60°	401.9	410.6	419.4	425.4	428.5	431.7	434.9	438.2
62.5°	384.9	394.2	403.4	409.6	412.5	415.6	418.6	421.6
65°	359.0	368.4	377.8	384.0	387.0	389.9	392.9	395.9
67.5°	332.8	342.2	351.7	358.1	361.1	364.3	367.4	370.5
70°	314.6	324.4	334.3	340.5	343.3	346.1	348.8	351.5
72.5°	296.9	306.5	316.2	322.7	326.0	329.3	332.5	335.9
75°	270.2	280.0	289.9	296.3	299.3	302.3	305.3	308.2
77.5°	244.2	254.0	263.8	270.2	273.5	276.7	279.8	283.1
80°	226.4	236.1	245.7	252.2	255.3	258.5	261.8	265.0
82.5°	210.0	219.5	229.2	235.5	238.5	241.6	244.6	247.6
85°	186.2	195.9	205.5	211.9	215.1	218.3	221.6	224.7
87.5°	173.8	182.7	192.5	198.9	201.9	204.8	207.7	210.7
90°	192.0	198.7	210.3	217.4	220.2	222.9	225.6	228.4
92.5°	248.9	243.4	242.5	241.1	242.9	241.9	245.6	246.4
95°	443.3	380.5	339.9	319.8	307.3	300.6	299.9	303.9
97.5°	843.9	722.0	603.5	524.3	471.0	444.8	430.4	423.2
100°	1191.1	1054.1	901.9	765.5	670.6	622.7	591.2	572.6
102.5°	1416.7	1392.2	1282.9	1138.0	1034.7	951.1	911.2	885.0
105°	1530.0	1670.6	1693.9	1660.4	1590.2	1520.0	1472.1	1458.2
107.5°	1432.7	1640.1	1769.8	1831.7	1843.4	1841.9	1834.3	1815.0
110°	1351.0	1568.3	1725.9	1826.9	1880.0	1904.7	1917.8	1919.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1275.9	1484.7	1652.5	1767.7	1840.4	1880.2	1902.7	1911.5
115°	1181.8	1369.4	1529.9	1655.5	1741.3	1797.8	1830.8	1843.9
117.5°	1108.9	1274.3	1420.5	1538.3	1625.7	1685.0	1719.5	1730.7
120°	1071.4	1223.2	1354.0	1465.2	1549.8	1607.5	1644.1	1658.3
122.5°	1040.7	1180.2	1304.2	1404.8	1480.7	1537.0	1569.4	1581.4
125°	995.3	1122.4	1231.7	1323.8	1393.9	1440.6	1472.0	1483.5
127.5°	950.5	1065.5	1168.6	1253.6	1314.9	1358.8	1386.1	1395.6
130°	921.7	1028.1	1126.3	1207.4	1266.7	1308.4	1333.7	1344.9
132.5°	893.9	992.6	1083.1	1159.4	1217.8	1259.5	1282.9	1293.1
135°	855.1	937.3	1019.6	1088.5	1140.8	1181.3	1204.4	1210.8
137.5°	822.7	891.7	957.5	1017.5	1065.1	1100.0	1120.0	1128.7
140°	802.4	862.4	920.0	974.2	1013.1	1045.0	1063.9	1072.4
142.5°	786.2	837.0	886.4	931.6	968.5	997.3	1014.2	1016.8
145°	764.1	804.2	841.9	877.3	906.6	927.6	940.5	945.1
147.5°	747.4	778.1	806.7	831.9	855.7	872.2	880.7	883.4
150°	736.7	762.5	787.2	808.3	825.9	840.0	847.0	848.2
152.5°	726.4	750.3	771.2	789.5	803.3	815.6	820.7	820.9
155°	712.1	730.8	748.4	761.3	774.3	782.4	787.2	784.9
157.5°	695.4	711.1	725.9	736.0	745.2	751.9	754.1	754.1
160°	685.1	698.0	710.9	719.1	727.3	733.2	734.4	734.4
162.5°	674.8	685.8	696.8	703.2	711.3	715.4	716.5	715.6
165°	659.3	667.5	675.7	680.4	685.1	689.8	689.8	688.6
167.5°	644.5	650.9	656.5	660.8	662.8	665.4	665.2	663.8
170°	637.0	640.6	645.2	647.5	648.7	652.3	651.1	648.7
172.5°	628.5	631.2	634.9	636.3	637.5	639.1	637.9	636.5
175°	619.5	620.6	621.8	622.9	622.9	624.1	622.9	620.6
177.5°	612.9	612.9	613.8	613.8	613.8	613.8	612.9	611.0
180°	610.1	610.1	610.1	610.1	610.1	610.1	610.1	610.1

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