

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: P331416-840

Luminaire Tested: **SA2XXDIP-C865D1080U840-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331416-840
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-C865D1080U840-4F0-1E-UDD-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

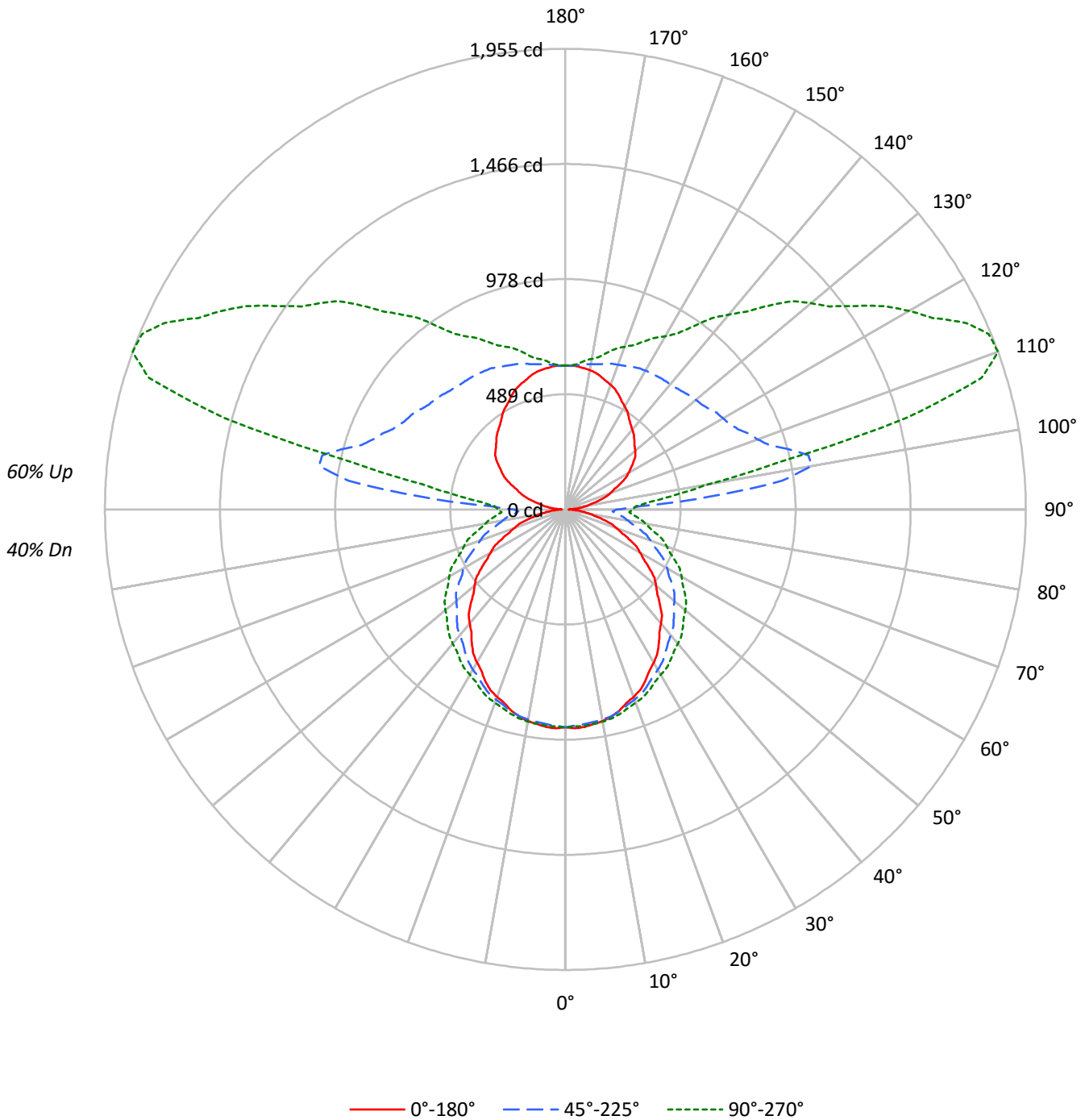
Lumens per Lamp: N/A
Luminaire Lumens: 7778.0 lumens
Efficiency: N/A
Efficacy: 118.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

Input Watts (W): 65.4
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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40
1	94	90	85	81	86	82	78	75	66	64	61	53	51	49	40	39	37	31
2	85	78	71	65	77	71	65	60	58	53	50	45	43	40	34	32	31	25
3	78	68	60	54	70	62	55	50	50	45	41	40	36	33	30	28	26	21
4	71	60	51	45	64	54	47	42	44	39	35	35	31	28	27	24	22	18
5	65	53	45	38	59	48	41	35	40	34	30	31	27	24	24	21	19	15
6	60	47	39	33	54	43	36	31	35	30	26	28	24	21	21	19	16	13
7	55	42	34	29	50	39	32	27	32	26	22	26	21	18	20	17	14	12
8	51	38	31	25	46	35	28	23	29	24	20	23	19	16	18	15	13	10
9	47	35	27	22	43	32	25	21	27	21	18	21	17	14	16	14	11	9
10	44	32	25	20	40	29	23	18	24	19	16	20	16	13	15	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14928	14928	14928
5°	15002	14370	14315
10°	14907	13945	13789
15°	14701	13496	13236
20°	14442	13015	12701
25°	14187	12551	12216
30°	13824	12074	11729
35°	13459	11611	11386
40°	13075	11219	11044
45°	12709	10869	10750
50°	12316	10551	10462
55°	11908	10209	10166
60°	11404	9856	9857
65°	10880	9439	9485
70°	10292	8992	9089
75°	9539	8554	8722
80°	8357	8107	8349
85°	7227	7720	8061



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.6	1.1
10°-20°	251.2	3.2
20°-30°	380.7	4.9
30°-40°	463.7	6.0
40°-50°	498.9	6.4
50°-60°	484.5	6.2
60°-70°	423.0	5.4
70°-80°	325.7	4.2
80°-90°	224.1	2.9
90°-100°	394.5	5.1
100°-110°	937.7	12.1
110°-120°	951.9	12.2
120°-130°	764.4	9.8
130°-140°	598.3	7.7
140°-150°	442.2	5.7
150°-160°	308.7	4.0
160°-170°	181.7	2.3
170°-180°	59.1	0.8
0°-30°	719.6	9.3
0°-40°	1183.3	15.2
0°-60°	2166.6	27.9
0°-90°	3139.4	40.4
90°-120°	2284.1	29.4
90°-150°	4089.0	52.6
90°-180°	4639.0	59.6
0°-180°	7778.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	925	925	925	925	925	
5°	927	923	915	923	922	88
15°	884	887	887	898	898	249
25°	804	814	826	841	846	369
35°	693	716	741	769	780	433
45°	568	605	651	691	706	438
55°	436	485	553	600	619	389
65°	298	364	442	495	514	295
75°	165	240	326	381	401	174
85°	48	132	217	271	292	52
90°	14	107	217	266	285	11
95°	52	176	614	377	355	52
105°	150	263	984	1714	1499	160
115°	258	341	808	1620	1875	255
125°	355	422	745	1296	1505	315
135°	414	495	706	1064	1223	320
145°	472	542	687	861	949	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°	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6
2.5°	930.0	929.3	928.6	927.9	927.2	925.9	924.2	922.6	920.9	919.3	920.5
5°	927.3	926.5	925.5	924.6	923.7	922.4	920.6	918.8	917.1	915.2	917.1
7.5°	919.0	918.4	917.8	917.3	916.7	915.6	914.2	912.9	911.5	910.2	912.3
10°	912.6	912.0	911.4	910.8	910.2	909.5	908.6	907.7	906.8	905.8	908.3
12.5°	901.8	902.0	902.1	902.2	902.3	902.0	901.4	900.7	900.1	899.4	901.8
15°	884.4	885.0	885.7	886.3	886.8	887.1	887.1	887.1	887.1	887.1	889.8
17.5°	861.9	863.1	864.4	865.7	866.9	868.0	869.0	869.9	870.9	871.8	874.6
20°	846.9	848.4	849.9	851.4	852.8	854.2	855.4	856.6	857.8	859.0	862.2
22.5°	830.8	832.5	834.2	836.0	837.7	839.4	841.1	842.7	844.4	846.1	849.4
25°	804.1	806.1	808.2	810.3	812.3	814.8	817.4	820.1	822.7	825.5	829.0
27.5°	771.8	775.3	778.6	782.0	785.5	788.7	791.8	795.1	798.2	801.3	805.9
30°	750.4	754.3	758.2	762.0	765.9	769.8	773.7	777.5	781.4	785.3	790.0
32.5°	726.8	731.1	735.5	739.9	744.3	748.7	753.3	757.9	762.4	767.0	772.5
35°	692.8	697.8	703.0	708.0	713.1	718.4	724.1	729.7	735.4	741.0	747.6
37.5°	655.8	661.7	667.5	673.3	679.1	685.7	693.1	700.4	707.7	715.1	722.4
40°	631.2	637.7	644.3	650.9	657.3	664.7	672.7	680.8	688.8	696.8	704.6
42.5°	607.5	614.1	620.7	627.2	633.8	641.7	650.9	660.1	669.3	678.6	687.0
45°	568.2	576.2	584.2	592.3	600.4	609.6	620.0	630.5	640.9	651.3	660.5
47.5°	529.3	538.1	546.8	555.6	564.3	574.8	587.0	599.3	611.5	623.7	633.3
50°	502.5	511.7	521.0	530.2	539.5	550.8	564.1	577.5	591.0	604.4	614.5
52.5°	476.8	486.5	496.2	505.9	515.6	527.6	541.7	555.7	569.9	584.0	594.3
55°	435.6	446.3	457.0	467.7	478.4	491.5	507.0	522.5	538.0	553.4	564.1
57.5°	394.8	406.9	419.0	431.0	443.1	457.1	472.8	488.7	504.4	520.2	531.8
60°	365.9	378.6	391.4	404.2	417.1	431.9	448.9	465.9	482.8	499.9	511.2
62.5°	340.1	353.4	366.7	379.9	393.2	408.4	425.4	442.3	459.3	476.3	488.3
65°	297.5	312.0	326.7	341.2	355.9	371.9	389.5	407.1	424.6	442.2	454.4
67.5°	258.3	273.6	288.8	304.1	319.3	336.0	354.0	371.9	389.9	407.9	420.2
70°	230.5	246.0	261.5	276.9	292.5	309.4	327.9	346.3	364.8	383.2	396.1
72.5°	204.8	220.8	236.7	252.7	268.6	285.9	304.7	323.4	342.0	360.7	373.3
75°	164.8	181.5	198.1	214.9	231.6	249.4	268.4	287.5	306.6	325.6	338.4
77.5°	126.2	143.7	161.2	178.5	196.0	214.4	233.8	253.2	272.5	291.9	304.6
80°	100.5	118.7	136.8	155.0	173.2	191.9	211.3	230.7	249.9	269.3	281.9
82.5°	79.1	96.9	114.9	132.8	150.8	169.6	189.1	208.7	228.3	247.9	260.4
85°	48.3	66.8	85.1	103.6	122.1	140.9	159.9	178.9	198.0	217.1	229.6
87.5°	26.5	44.9	63.6	81.9	100.1	119.2	139.4	160.1	180.6	199.9	211.8
90°	14.5	35.3	57.4	77.0	96.5	118.3	143.2	170.5	196.5	216.8	227.5
92.5°	26.7	49.1	73.6	94.8	118.9	147.1	192.0	247.6	299.3	319.7	307.7
95°	51.8	70.5	96.2	120.8	153.5	197.6	269.4	389.4	543.3	614.0	567.8
97.5°	76.2	95.0	119.9	148.3	182.4	229.0	314.0	473.3	716.7	927.7	977.1
100°	99.7	114.2	135.8	165.6	200.1	246.8	325.7	485.4	755.5	1060.8	1240.7
102.5°	120.3	132.9	153.5	182.3	216.8	262.8	336.5	479.8	730.6	1057.9	1334.3
105°	149.9	163.2	180.0	206.2	240.7	285.6	356.2	476.1	685.2	984.5	1307.0
107.5°	183.3	194.0	208.8	232.0	264.5	308.4	376.8	482.6	657.4	907.0	1192.7
110°	204.8	215.4	228.4	249.6	280.2	324.6	390.7	489.8	647.5	868.6	1121.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	225.4	235.1	248.1	267.4	296.1	340.5	404.1	497.8	641.7	840.4	1068.3
115°	257.6	266.7	277.0	294.4	321.1	361.1	425.0	510.0	637.1	807.8	1002.0
117.5°	289.5	296.4	305.6	320.1	344.9	385.0	444.0	523.5	635.6	785.8	955.7
120°	310.2	316.1	324.4	336.1	360.7	400.1	457.8	533.0	635.3	772.7	930.1
122.5°	329.9	334.2	341.6	353.7	377.6	417.2	471.3	541.2	636.1	762.5	907.5
125°	354.7	358.1	365.2	379.3	402.7	440.3	492.1	554.4	636.7	744.8	873.6
127.5°	375.3	379.7	389.2	404.5	426.7	464.1	512.8	567.9	638.9	731.1	842.2
130°	387.5	391.8	403.3	419.4	442.6	478.4	525.7	576.5	641.5	722.8	821.4
132.5°	398.7	404.0	416.5	433.5	457.6	492.7	536.7	585.2	644.0	715.4	803.5
135°	414.2	419.0	433.0	450.6	477.7	512.0	552.5	596.5	646.4	705.7	778.8
137.5°	430.2	435.9	449.8	468.6	495.2	526.3	564.7	604.3	648.3	697.7	759.2
140°	442.4	446.9	460.6	479.1	504.6	535.2	571.1	608.0	648.4	692.5	747.7
142.5°	454.6	458.1	470.9	489.4	514.0	542.5	576.9	612.5	649.6	690.3	738.0
145°	471.6	476.3	488.1	505.6	529.1	554.9	586.5	619.5	652.3	687.4	726.8
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°	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6
2.5°	921.6	922.8	924.0	924.4	923.9	923.4	922.9	922.5
5°	918.8	920.6	922.4	923.1	922.8	922.5	922.2	921.9
7.5°	914.4	916.6	918.8	919.7	919.4	919.1	918.8	918.5
10°	910.6	913.0	915.4	916.5	916.1	915.8	915.5	915.2
12.5°	904.2	906.6	909.0	910.0	909.7	909.4	909.1	908.8
15°	892.4	895.1	897.9	899.0	898.7	898.4	898.1	897.9
17.5°	877.5	880.2	883.0	884.4	884.4	884.4	884.4	884.4
20°	865.6	868.8	872.0	873.7	873.7	873.7	873.7	873.7
22.5°	852.6	856.0	859.2	861.1	861.5	862.0	862.5	863.0
25°	832.6	836.2	839.8	842.0	842.8	843.7	844.7	845.6
27.5°	810.4	815.0	819.4	822.0	822.7	823.3	824.0	824.7
30°	794.8	799.5	804.4	807.2	808.0	808.9	809.8	810.7
32.5°	778.0	783.5	788.9	792.5	794.1	795.7	797.3	798.9
35°	754.2	760.7	767.3	771.5	773.7	775.8	777.8	779.9
37.5°	729.5	736.8	744.1	748.8	751.0	753.3	755.5	757.7
40°	712.3	720.0	727.8	733.0	735.7	738.3	741.0	743.8
42.5°	695.5	704.0	712.5	718.0	720.6	723.4	726.0	728.7
45°	669.7	678.9	688.2	694.3	697.3	700.2	703.3	706.2
47.5°	643.0	652.6	662.3	668.7	672.0	675.3	678.5	681.9
50°	624.6	634.7	644.9	651.6	654.8	658.1	661.4	664.7
52.5°	604.7	615.1	625.4	632.4	635.9	639.4	642.9	646.4
55°	574.9	585.6	596.3	603.6	607.4	611.4	615.2	619.0
57.5°	543.3	554.8	566.4	574.2	578.0	582.0	585.9	589.9
60°	522.5	533.8	545.1	552.8	557.0	561.2	565.3	569.6
62.5°	500.3	512.3	524.3	532.4	536.2	540.2	544.1	548.1
65°	466.7	478.9	491.1	499.1	502.9	506.9	510.7	514.5
67.5°	432.5	444.8	457.3	465.4	469.5	473.5	477.6	481.6
70°	408.9	421.6	434.4	442.6	446.3	449.8	453.4	457.0
72.5°	385.9	398.4	411.0	419.4	423.7	428.0	432.3	436.6
75°	351.2	364.1	376.9	385.2	389.1	392.9	396.8	400.7
77.5°	317.4	330.1	342.8	351.3	355.5	359.6	363.9	368.0
80°	294.4	306.9	319.4	327.7	331.8	336.1	340.2	344.4
82.5°	273.0	285.4	297.9	306.2	310.1	314.0	317.9	321.8
85°	242.1	254.6	267.1	275.5	279.6	283.8	287.9	292.2
87.5°	223.7	235.4	248.0	256.2	260.0	263.9	267.6	271.5
90°	238.2	247.8	262.1	270.9	274.6	278.1	281.8	285.3
92.5°	292.9	290.0	291.9	292.2	294.8	294.7	299.1	300.8
95°	484.1	423.8	385.9	367.5	355.9	350.0	350.1	354.9
97.5°	881.9	762.4	646.5	569.1	516.5	491.2	477.6	471.2
100°	1227.1	1092.7	942.9	808.2	714.1	666.9	636.1	618.3
102.5°	1451.0	1428.9	1322.1	1178.7	1076.2	993.4	954.1	928.8
105°	1561.5	1704.5	1730.1	1698.2	1628.8	1559.3	1512.2	1499.0
107.5°	1461.4	1671.0	1803.1	1866.5	1879.0	1878.2	1871.4	1852.9
110°	1378.0	1597.5	1757.2	1859.8	1913.5	1939.0	1952.9	1955.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1301.0	1512.1	1682.1	1798.8	1872.2	1912.8	1936.0	1945.6
115°	1204.6	1394.1	1556.7	1683.6	1770.3	1827.5	1861.3	1875.1
117.5°	1129.0	1296.5	1444.6	1563.9	1651.8	1711.9	1747.1	1759.0
120°	1089.7	1243.5	1376.2	1488.7	1574.2	1632.5	1669.9	1684.9
122.5°	1057.4	1198.8	1324.7	1426.6	1503.1	1560.0	1593.2	1605.8
125°	1009.6	1138.4	1249.7	1343.0	1413.7	1461.0	1493.0	1505.1
127.5°	962.2	1078.9	1183.7	1269.9	1331.8	1376.2	1404.2	1414.3
130°	931.8	1039.9	1139.7	1221.9	1281.7	1324.0	1349.9	1361.6
132.5°	902.4	1002.7	1094.8	1172.2	1231.1	1273.3	1297.3	1308.2
135°	861.3	945.0	1028.7	1098.7	1151.5	1192.7	1216.2	1223.2
137.5°	826.9	897.2	964.1	1025.1	1073.1	1108.4	1129.0	1138.1
140°	805.3	866.4	925.0	980.0	1019.3	1051.6	1071.0	1079.7
142.5°	788.1	839.7	890.0	935.8	973.1	1002.3	1019.6	1022.5
145°	765.0	805.5	843.5	879.3	908.9	930.3	943.5	948.6
147.5°	747.5	778.3	806.9	832.2	856.2	872.8	881.5	884.3
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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