

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: P331416-940

Luminaire Tested: **SA2XXDIP-C865D1080U940-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331416-940
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-C865D1080U940-4F0-1E-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

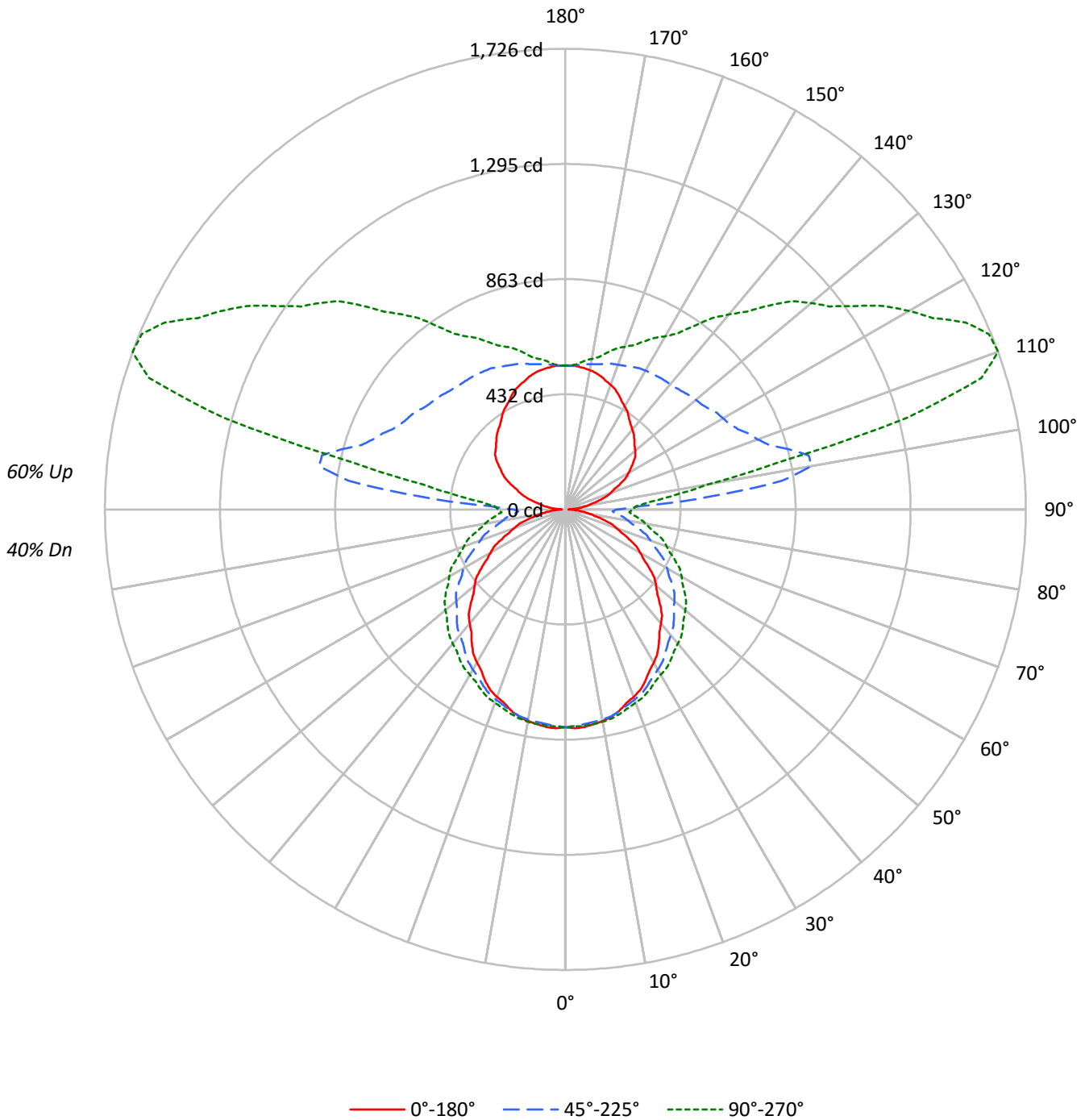
Lumens per Lamp: N/A
Luminaire Lumens: 6867.9 lumens
Efficiency: N/A
Efficacy: 105.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

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°	13183	13183	13183
5°	13247	12690	12640
10°	13163	12315	12177
15°	12982	11917	11686
20°	12752	11492	11215
25°	12527	11082	10786
30°	12206	10661	10357
35°	11884	10253	10054
40°	11544	9907	9750
45°	11222	9597	9493
50°	10875	9317	9238
55°	10513	9015	8977
60°	10070	8702	8703
65°	9607	8336	8376
70°	9087	7940	8025
75°	8422	7553	7701
80°	7376	7159	7372
85°	6374	6817	7118



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.4	1.1
10°-20°	221.8	3.2
20°-30°	336.2	4.9
30°-40°	409.5	6.0
40°-50°	440.5	6.4
50°-60°	427.8	6.2
60°-70°	373.5	5.4
70°-80°	287.6	4.2
80°-90°	197.8	2.9
90°-100°	348.3	5.1
100°-110°	828.0	12.1
110°-120°	840.6	12.2
120°-130°	675.0	9.8
130°-140°	528.3	7.7
140°-150°	390.5	5.7
150°-160°	272.6	4.0
160°-170°	160.5	2.3
170°-180°	52.2	0.8
0°-30°	635.4	9.3
0°-40°	1044.8	15.2
0°-60°	1913.1	27.9
0°-90°	2772.1	40.4
90°-120°	2016.8	29.4
90°-150°	3610.6	52.6
90°-180°	4096.0	59.6
0°-180°	6867.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	816	816	816	816	816	
5°	819	815	808	815	814	78
15°	781	783	783	793	793	220
25°	710	718	729	742	747	326
35°	612	632	654	679	689	382
45°	502	534	575	610	624	387
55°	385	428	489	530	547	344
65°	263	321	390	437	454	261
75°	146	212	288	336	354	154
85°	43	116	192	240	258	46
90°	13	95	192	235	252	10
95°	46	155	542	333	313	46
105°	132	232	869	1514	1324	141
115°	228	301	713	1431	1656	225
125°	313	372	658	1145	1329	278
135°	366	437	623	939	1080	283
145°	416	479	607	761	838	261
155°	473	511	589	667	693	218
165°	516	531	564	599	608	145
175°	538	538	543	550	548	51
180°	539	539	539	539	539	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5
2.5°	821.2	820.6	819.9	819.3	818.7	817.6	816.1	814.7	813.2	811.7	812.8
5°	818.8	818.1	817.3	816.5	815.6	814.5	812.9	811.3	809.8	808.2	809.8
7.5°	811.5	810.9	810.4	809.9	809.4	808.5	807.3	806.1	804.9	803.7	805.6
10°	805.8	805.3	804.8	804.2	803.7	803.1	802.3	801.5	800.7	799.9	802.0
12.5°	796.3	796.5	796.6	796.7	796.7	796.5	795.9	795.3	794.8	794.2	796.3
15°	781.0	781.5	782.0	782.6	783.0	783.3	783.3	783.3	783.3	783.3	785.7
17.5°	761.1	762.1	763.3	764.4	765.4	766.4	767.3	768.1	769.0	769.8	772.3
20°	747.8	749.1	750.5	751.8	753.0	754.3	755.3	756.3	757.4	758.5	761.3
22.5°	733.6	735.1	736.6	738.2	739.7	741.2	742.7	744.1	745.6	747.1	750.0
25°	710.0	711.8	713.6	715.5	717.3	719.4	721.8	724.2	726.5	728.9	732.0
27.5°	681.5	684.6	687.5	690.5	693.6	696.4	699.2	702.0	704.8	707.6	711.6
30°	662.6	666.0	669.5	672.9	676.3	679.8	683.1	686.5	690.0	693.4	697.6
32.5°	641.8	645.6	649.4	653.4	657.2	661.1	665.1	669.2	673.2	677.3	682.2
35°	611.7	616.2	620.7	625.2	629.6	634.4	639.4	644.4	649.3	654.3	660.1
37.5°	579.1	584.2	589.4	594.5	599.7	605.5	612.0	618.5	624.9	631.4	637.8
40°	557.3	563.1	568.9	574.7	580.4	586.9	594.0	601.1	608.2	615.3	622.1
42.5°	536.5	542.2	548.0	553.8	559.6	566.6	574.7	582.9	591.0	599.2	606.6
45°	501.7	508.8	515.9	523.0	530.1	538.2	547.4	556.7	565.9	575.1	583.2
47.5°	467.3	475.1	482.9	490.6	498.3	507.6	518.4	529.1	539.9	550.7	559.2
50°	443.7	451.8	460.0	468.1	476.4	486.3	498.1	510.0	521.8	533.7	542.6
52.5°	421.0	429.5	438.2	446.7	455.3	465.8	478.3	490.7	503.2	515.7	524.8
55°	384.6	394.0	403.5	413.0	422.4	434.0	447.6	461.4	475.0	488.7	498.1
57.5°	348.6	359.3	370.0	380.6	391.3	403.6	417.5	431.5	445.4	459.3	469.6
60°	323.1	334.3	345.6	357.0	368.3	381.4	396.4	411.3	426.3	441.4	451.4
62.5°	300.3	312.0	323.8	335.5	347.2	360.6	375.6	390.6	405.6	420.5	431.1
65°	262.7	275.5	288.5	301.3	314.2	328.4	343.9	359.4	375.0	390.5	401.3
67.5°	228.1	241.6	255.0	268.5	282.0	296.7	312.5	328.4	344.3	360.2	371.0
70°	203.5	217.2	230.9	244.5	258.2	273.2	289.5	305.8	322.1	338.4	349.7
72.5°	180.8	194.9	209.0	223.1	237.2	252.4	269.0	285.5	302.0	318.5	329.7
75°	145.5	160.2	175.0	189.8	204.5	220.3	237.0	253.9	270.7	287.5	298.8
77.5°	111.5	126.9	142.3	157.7	173.1	189.3	206.4	223.6	240.6	257.7	268.9
80°	88.7	104.8	120.8	136.9	152.9	169.4	186.5	203.7	220.7	237.8	248.9
82.5°	69.8	85.6	101.5	117.3	133.1	149.7	167.0	184.3	201.6	218.9	230.0
85°	42.6	58.9	75.2	91.5	107.8	124.4	141.2	158.0	174.9	191.7	202.8
87.5°	23.4	39.7	56.2	72.3	88.4	105.2	123.1	141.3	159.4	176.5	187.0
90°	12.8	31.2	50.6	67.9	85.2	104.4	126.4	150.5	173.5	191.5	200.9
92.5°	23.5	43.3	65.0	83.7	105.0	129.9	169.5	218.6	264.3	282.3	271.7
95°	45.7	62.2	85.0	106.6	135.5	174.5	237.9	343.8	479.7	542.2	501.4
97.5°	67.3	83.9	105.8	131.0	161.0	202.2	277.2	417.9	632.8	819.1	862.8
100°	88.0	100.9	119.9	146.2	176.6	217.9	287.6	428.6	667.1	936.7	1095.6
102.5°	106.2	117.3	135.5	161.0	191.5	232.0	297.1	423.7	645.2	934.2	1178.2
105°	132.3	144.1	158.9	182.1	212.5	252.2	314.5	420.4	605.0	869.3	1154.1
107.5°	161.8	171.3	184.4	204.8	233.5	272.3	332.7	426.1	580.5	800.8	1053.1
110°	180.8	190.2	201.7	220.4	247.4	286.6	345.0	432.5	571.8	767.0	989.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	199.0	207.6	219.1	236.1	261.4	300.7	356.9	439.5	566.6	742.1	943.3
115°	227.5	235.5	244.6	259.9	283.6	318.9	375.2	450.3	562.6	713.3	884.8
117.5°	255.7	261.7	269.8	282.7	304.5	339.9	392.1	462.3	561.2	693.8	843.9
120°	273.9	279.1	286.4	296.8	318.5	353.3	404.2	470.6	561.0	682.3	821.3
122.5°	291.3	295.1	301.7	312.3	333.4	368.4	416.2	477.9	561.7	673.3	801.3
125°	313.2	316.2	322.4	334.9	355.6	388.8	434.5	489.5	562.2	657.6	771.4
127.5°	331.4	335.3	343.7	357.1	376.7	409.8	452.8	501.5	564.2	645.6	743.7
130°	342.1	346.0	356.1	370.3	390.8	422.4	464.2	509.1	566.4	638.2	725.3
132.5°	352.0	356.8	367.7	382.8	404.0	435.1	473.9	516.7	568.6	631.7	709.5
135°	365.8	370.0	382.4	397.9	421.8	452.1	487.9	526.7	570.8	623.1	687.7
137.5°	379.9	384.9	397.2	413.8	437.3	464.8	498.6	533.6	572.5	616.1	670.4
140°	390.7	394.6	406.7	423.0	445.6	472.6	504.3	536.9	572.6	611.4	660.2
142.5°	401.4	404.5	415.8	432.1	453.9	479.0	509.4	540.8	573.6	609.6	651.7
145°	416.4	420.5	431.0	446.5	467.2	490.0	517.9	547.0	576.0	607.0	641.8
147.5°	433.8	436.9	446.8	461.2	478.4	498.6	525.0	550.5	576.8	603.3	632.5
150°	445.4	448.5	456.8	470.3	485.8	504.4	528.3	552.1	576.0	600.8	625.6
152.5°	457.0	458.5	466.7	478.6	493.3	510.2	531.6	552.9	574.3	596.6	619.8
155°	473.4	474.4	480.6	492.0	503.5	519.0	536.5	554.2	571.8	589.4	609.1
157.5°	487.1	488.1	493.1	503.0	512.1	525.2	540.1	554.2	567.0	581.9	599.0
160°	496.1	497.2	501.3	509.6	517.9	529.3	541.8	554.2	564.5	577.0	591.5
162.5°	505.3	504.7	508.8	515.4	522.9	531.8	542.6	553.4	562.0	572.8	584.9
165°	515.9	514.9	516.9	523.1	528.3	534.5	543.9	551.1	557.3	564.5	573.9
167.5°	524.6	523.3	525.2	529.1	532.9	536.8	543.6	549.7	552.5	557.3	563.1
170°	530.4	528.3	529.3	532.4	534.5	537.6	542.8	548.0	550.0	553.1	557.3
172.5°	533.7	532.4	531.8	534.9	536.2	538.4	542.0	545.5	546.7	548.2	551.5
175°	537.6	536.5	535.6	537.6	537.6	538.7	540.7	542.8	541.8	542.8	543.9
177.5°	539.5	537.8	537.0	538.7	538.7	538.7	539.5	541.2	539.5	538.7	539.5
180°	538.7	538.7	538.7	538.7	538.7	538.7	538.7	538.7	538.7	538.7	538.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5
2.5°	813.8	814.8	815.9	816.3	815.8	815.4	814.9	814.6
5°	811.3	812.9	814.5	815.1	814.8	814.6	814.3	814.0
7.5°	807.4	809.3	811.3	812.1	811.8	811.5	811.3	811.0
10°	804.1	806.2	808.3	809.2	809.0	808.7	808.4	808.2
12.5°	798.4	800.5	802.6	803.5	803.3	803.0	802.7	802.5
15°	788.0	790.4	792.8	793.8	793.5	793.3	793.0	792.8
17.5°	774.8	777.2	779.7	781.0	781.0	781.0	781.0	781.0
20°	764.3	767.1	770.0	771.5	771.5	771.5	771.5	771.5
22.5°	752.9	755.8	758.7	760.4	760.7	761.2	761.6	762.1
25°	735.2	738.3	741.5	743.5	744.2	745.0	745.8	746.6
27.5°	715.6	719.6	723.5	725.9	726.5	727.0	727.6	728.2
30°	701.8	706.0	710.2	712.7	713.5	714.3	715.1	715.9
32.5°	687.0	691.8	696.6	699.8	701.2	702.6	704.0	705.4
35°	665.9	671.7	677.5	681.3	683.1	685.0	686.8	688.7
37.5°	644.2	650.6	657.0	661.2	663.2	665.1	667.1	669.1
40°	628.9	635.8	642.7	647.2	649.6	651.9	654.3	656.7
42.5°	614.1	621.6	629.1	634.0	636.3	638.7	641.1	643.5
45°	591.4	599.5	607.7	613.1	615.7	618.3	621.0	623.6
47.5°	567.8	576.2	584.8	590.5	593.3	596.3	599.1	602.1
50°	551.5	560.4	569.4	575.3	578.2	581.1	584.0	586.9
52.5°	534.0	543.1	552.2	558.4	561.5	564.6	567.7	570.8
55°	507.7	517.1	526.6	533.0	536.4	539.8	543.2	546.6
57.5°	479.7	489.9	500.2	507.0	510.4	513.9	517.4	520.8
60°	461.4	471.4	481.3	488.1	491.9	495.5	499.2	502.9
62.5°	441.8	452.4	463.0	470.1	473.5	477.0	480.5	483.9
65°	412.1	422.8	433.6	440.7	444.1	447.5	450.9	454.3
67.5°	381.9	392.8	403.8	411.0	414.6	418.1	421.7	425.3
70°	361.1	372.3	383.6	390.8	394.0	397.2	400.4	403.5
72.5°	340.7	351.8	362.9	370.3	374.2	377.9	381.7	385.5
75°	310.1	321.5	332.8	340.1	343.6	347.0	350.4	353.8
77.5°	280.3	291.5	302.7	310.2	313.9	317.5	321.3	324.9
80°	259.9	271.0	282.0	289.4	293.0	296.8	300.4	304.1
82.5°	241.0	252.0	263.1	270.4	273.8	277.2	280.7	284.2
85°	213.7	224.8	235.9	243.3	246.9	250.6	254.2	258.0
87.5°	197.5	207.9	219.0	226.2	229.6	233.0	236.3	239.7
90°	210.4	218.8	231.4	239.2	242.5	245.6	248.8	251.9
92.5°	258.6	256.1	257.7	258.0	260.3	260.2	264.1	265.6
95°	427.5	374.3	340.7	324.5	314.2	309.1	309.2	313.3
97.5°	778.7	673.2	570.9	502.5	456.1	433.7	421.7	416.1
100°	1083.5	964.8	832.6	713.6	630.5	588.9	561.7	546.0
102.5°	1281.2	1261.7	1167.4	1040.8	950.3	877.2	842.5	820.1
105°	1378.8	1505.0	1527.7	1499.5	1438.2	1376.9	1335.2	1323.7
107.5°	1290.4	1475.5	1592.1	1648.1	1659.1	1658.5	1652.4	1636.1
110°	1216.7	1410.6	1551.6	1642.2	1689.6	1712.2	1724.4	1726.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1148.8	1335.2	1485.3	1588.3	1653.1	1689.0	1709.5	1718.0
115°	1063.6	1231.0	1374.6	1486.7	1563.2	1613.6	1643.5	1655.7
117.5°	996.9	1144.8	1275.6	1380.9	1458.6	1511.6	1542.7	1553.2
120°	962.2	1098.1	1215.2	1314.6	1390.0	1441.5	1474.5	1487.7
122.5°	933.7	1058.5	1169.7	1259.7	1327.2	1377.5	1406.8	1417.9
125°	891.4	1005.2	1103.5	1185.9	1248.3	1290.0	1318.3	1329.0
127.5°	849.6	952.7	1045.2	1121.3	1176.0	1215.2	1239.9	1248.8
130°	822.8	918.2	1006.4	1079.0	1131.8	1169.1	1191.9	1202.3
132.5°	796.8	885.4	966.7	1035.0	1087.1	1124.4	1145.5	1155.1
135°	760.5	834.5	908.4	970.2	1016.8	1053.1	1073.9	1080.1
137.5°	730.1	792.2	851.3	905.2	947.5	978.7	996.9	1005.0
140°	711.1	765.0	816.8	865.3	900.0	928.5	945.7	953.4
142.5°	695.9	741.5	785.9	826.3	859.3	885.0	900.3	902.9
145°	675.5	711.2	744.8	776.4	802.5	821.4	833.1	837.6
147.5°	660.0	687.2	712.5	734.9	756.0	770.7	778.4	780.9
150°	650.5	673.3	695.1	713.7	729.2	741.7	747.9	748.9
152.5°	641.4	662.5	681.0	697.1	709.4	720.1	724.7	724.9
155°	628.7	645.3	660.8	672.3	683.7	690.9	695.1	693.0
157.5°	614.0	627.9	641.0	649.9	658.0	664.0	665.8	665.8
160°	604.9	616.4	627.8	635.0	642.2	647.4	648.5	648.5
162.5°	595.8	605.6	615.3	620.9	628.1	631.7	632.7	631.9
165°	582.2	589.4	596.6	600.8	604.9	609.1	609.1	608.1
167.5°	569.1	574.7	579.7	583.4	585.2	587.5	587.4	586.1
170°	562.5	565.6	569.7	571.8	572.8	576.0	574.9	572.8
172.5°	555.0	557.3	560.6	561.9	562.9	564.4	563.3	562.0
175°	547.0	548.0	549.0	550.0	550.0	551.1	550.0	548.0
177.5°	541.2	541.2	542.0	542.0	542.0	542.0	541.2	539.5
180°	538.7	538.7	538.7	538.7	538.7	538.7	538.7	538.7

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