

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: P332603-940

Luminaire Tested: **S124DIP-S795D810U940-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332603-940  
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: S124DIP-S795D810U940-4F0-1E-UDD-D4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 795 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 810 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

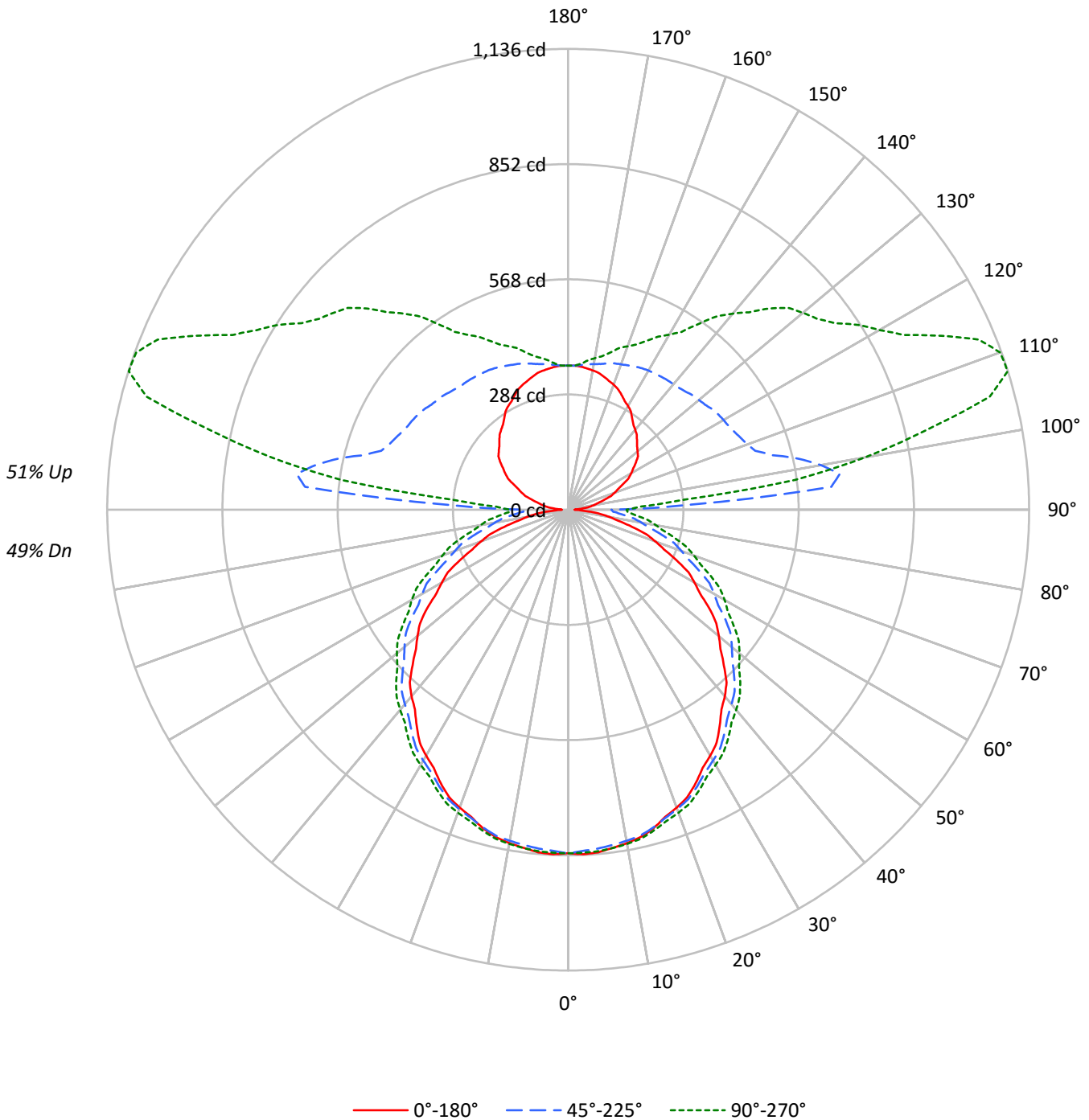
Lumens per Lamp: N/A  
Luminaire Lumens: 5470.4 lumens  
Efficiency: N/A  
Efficacy: 119.2 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: General Diffuse  
  
Input Watts (W): 45.9  
Input Voltage (V): 120  
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	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55	49
1	97	92	88	84	89	85	81	78	71	68	66	59	57	55	47	46	45	39
2	87	80	73	68	80	73	68	63	62	57	54	51	48	45	41	39	37	32
3	80	70	62	56	73	64	57	52	54	49	45	45	41	38	36	33	31	27
4	73	61	53	47	66	57	49	44	48	42	38	39	35	32	32	29	26	22
5	66	54	46	40	61	50	43	37	43	37	32	35	31	27	29	25	23	19
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	26	22	20	17
7	56	44	36	30	52	41	33	28	35	29	25	29	24	21	23	20	17	15
8	52	40	32	26	48	37	30	25	31	26	22	26	22	19	22	18	16	13
9	49	36	29	23	45	34	27	22	29	23	19	24	20	17	20	16	14	12
10	45	33	26	21	42	31	24	20	26	21	17	22	18	15	18	15	13	11

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	6838	6838	6838
5°	6859	6683	6702
10°	6817	6573	6568
15°	6756	6446	6411
20°	6664	6307	6259
25°	6560	6151	6092
30°	6448	5995	5919
35°	6321	5835	5768
40°	6219	5684	5610
45°	6067	5543	5475
50°	5939	5383	5333
55°	5808	5231	5164
60°	5601	5036	5013
65°	5376	4829	4824
70°	5101	4592	4605
75°	4723	4331	4407
80°	4295	4081	4213
85°	3763	3857	4101



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	80.2	1.5
10°-20°	229.8	4.2
20°-30°	347.5	6.4
30°-40°	420.4	7.7
40°-50°	444.5	8.1
50°-60°	418.3	7.6
60°-70°	347.1	6.3
70°-80°	243.8	4.5
80°-90°	139.8	2.6
90°-100°	338.2	6.2
100°-110°	594.1	10.9
110°-120°	518.5	9.5
120°-130°	424.9	7.8
130°-140°	345.1	6.3
140°-150°	258.1	4.7
150°-160°	180.0	3.3
160°-170°	105.9	1.9
170°-180°	34.4	0.6
0°-30°	657.5	12.0
0°-40°	1077.9	19.7
0°-60°	1940.7	35.5
0°-90°	2671.4	48.8
90°-120°	1450.8	26.5
90°-150°	2478.8	45.3
90°-180°	2799.0	51.2
0°-180°	5470.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	847	847	847	847	847	
5°	848	845	838	846	845	80
15°	813	814	811	819	818	229
25°	744	749	752	762	764	342
35°	651	662	672	684	688	407
45°	542	561	578	594	599	419
55°	425	445	473	492	498	378
65°	294	324	357	379	388	291
75°	163	198	238	264	273	174
85°	50	90	133	160	171	53
90°	16	59	106	134	144	11
95°	35	117	651	388	287	36
105°	90	147	520	1070	1075	97
115°	149	196	452	848	1014	148
125°	204	242	432	711	802	182
135°	240	285	411	615	702	186
145°	275	314	400	505	558	173
155°	312	336	389	441	460	144
165°	340	350	373	395	401	96
175°	354	355	358	363	361	34
180°	355	355	355	355	355	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	847.0	847.0	847.0	847.0	847.0	847.0	847.0	847.0	847.0	847.0	847.0
2.5°	850.1	849.5	849.0	848.6	848.0	847.1	845.7	844.4	843.0	841.7	842.8
5°	847.9	847.3	846.7	846.1	845.4	844.4	842.8	841.4	839.9	838.5	840.2
7.5°	840.7	840.3	840.0	839.6	839.2	838.4	837.2	836.0	834.7	833.6	835.4
10°	834.6	834.5	834.3	834.0	833.8	833.2	832.1	831.1	830.0	828.9	830.9
12.5°	826.3	826.3	826.3	826.2	826.2	825.8	825.1	824.3	823.6	822.9	824.7
15°	812.9	813.1	813.2	813.5	813.7	813.5	812.9	812.3	811.5	810.9	812.9
17.5°	794.4	795.0	795.7	796.4	797.0	797.2	797.1	797.0	796.8	796.7	798.7
20°	781.6	782.2	782.8	783.5	784.1	784.5	784.7	784.9	785.2	785.3	787.5
22.5°	767.1	767.9	768.7	769.5	770.3	771.0	771.3	771.7	772.0	772.5	774.5
25°	743.6	744.8	746.2	747.4	748.7	749.7	750.3	750.9	751.5	752.2	754.5
27.5°	717.5	719.3	721.1	723.0	724.9	726.3	727.3	728.2	729.2	730.1	732.3
30°	700.0	701.7	703.4	705.1	706.8	708.3	709.8	711.2	712.7	714.2	716.5
32.5°	681.0	683.1	685.1	687.1	689.1	690.9	692.6	694.2	695.9	697.5	700.2
35°	650.7	653.2	655.8	658.3	660.8	663.1	665.2	667.4	669.4	671.5	674.5
37.5°	620.1	623.0	626.0	628.8	631.8	634.5	637.1	639.7	642.4	645.0	648.0
40°	600.4	603.2	605.8	608.6	611.4	614.2	617.2	620.1	623.0	626.0	629.2
42.5°	577.7	580.7	583.8	586.8	590.0	593.2	596.6	600.1	603.6	607.0	610.6
45°	542.5	546.5	550.5	554.6	558.6	562.6	566.6	570.6	574.5	578.5	582.2
47.5°	509.0	513.1	517.2	521.4	525.5	529.9	534.5	539.1	543.8	548.4	552.1
50°	484.6	489.3	493.9	498.6	503.2	507.8	512.5	517.1	521.7	526.4	530.7
52.5°	460.4	465.0	469.7	474.3	478.9	483.9	489.2	494.5	499.9	505.2	509.3
55°	424.9	429.4	433.8	438.2	442.6	448.0	454.3	460.7	467.0	473.3	477.5
57.5°	385.3	390.7	396.3	401.7	407.2	413.0	419.4	425.6	431.9	438.2	443.2
60°	359.4	365.0	370.4	375.9	381.4	387.6	394.6	401.5	408.5	415.4	420.3
62.5°	334.4	340.5	346.4	352.4	358.4	364.9	371.8	378.8	385.8	392.7	397.5
65°	294.0	300.8	307.6	314.2	321.0	328.0	335.1	342.3	349.5	356.6	361.9
67.5°	255.1	262.3	269.5	276.6	283.8	291.2	298.9	306.6	314.2	321.9	327.3
70°	228.5	235.8	242.9	250.1	257.3	264.8	272.9	280.9	288.8	296.9	302.6
72.5°	202.8	210.1	217.5	224.8	232.1	240.0	248.6	257.1	265.6	274.1	279.6
75°	163.2	170.9	178.7	186.5	194.3	202.7	211.5	220.3	229.3	238.1	244.0
77.5°	126.2	134.4	142.7	151.0	159.2	168.0	177.3	186.5	195.8	205.1	211.1
80°	103.3	111.8	120.2	128.7	137.1	146.0	155.2	164.5	173.8	183.1	189.4
82.5°	80.6	89.3	98.2	106.9	115.7	124.8	134.0	143.3	152.6	161.8	168.3
85°	50.3	59.1	67.9	76.9	85.7	94.9	104.3	113.8	123.3	132.8	139.1
87.5°	28.2	37.1	46.1	54.8	63.6	72.5	82.6	91.8	101.3	110.8	116.8
90°	15.9	25.7	36.2	45.4	54.5	63.2	76.5	85.5	96.0	106.5	111.9
92.5°	22.4	33.6	47.7	63.8	81.6	104.4	148.9	212.0	273.8	310.5	279.5
95°	35.3	44.4	58.3	74.4	98.0	135.1	204.4	327.4	502.7	650.8	672.5
97.5°	52.4	58.5	70.4	84.8	105.1	137.0	192.3	295.2	469.4	675.1	816.2
100°	63.4	68.9	79.3	93.1	111.8	141.0	190.4	277.4	427.8	632.7	816.9
102.5°	74.5	80.5	89.6	102.3	119.8	147.4	192.6	270.0	399.1	581.5	771.1
105°	90.2	96.4	104.2	116.7	133.5	159.7	201.0	266.6	372.0	520.0	689.1
107.5°	109.1	114.0	121.0	133.3	148.8	174.2	212.2	272.3	363.1	483.2	622.1
110°	121.3	125.6	132.1	143.3	158.8	182.8	220.9	277.1	361.1	469.7	588.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	132.8	136.8	143.4	153.8	169.0	192.7	229.3	282.3	361.1	460.8	566.9
115°	149.4	153.3	160.1	169.0	184.1	207.2	241.9	290.4	362.0	452.5	544.9
117.5°	167.6	170.7	176.1	184.9	198.5	221.7	254.5	299.3	363.6	446.1	531.7
120°	179.1	181.1	186.6	194.9	207.4	230.2	262.9	305.2	365.1	442.3	523.9
122.5°	190.2	191.7	196.7	203.9	217.0	239.0	271.3	311.0	366.6	437.9	515.7
125°	203.9	206.5	210.4	217.9	231.0	253.0	283.4	320.7	369.9	432.4	503.3
127.5°	216.7	218.7	223.6	232.1	245.7	267.2	295.6	329.0	371.4	425.2	487.5
130°	223.2	225.8	231.1	241.4	254.4	276.3	303.3	333.9	372.8	420.8	477.6
132.5°	230.4	232.5	239.5	249.1	263.3	283.7	310.0	339.4	374.3	417.1	468.8
135°	239.7	242.5	249.4	261.3	275.9	294.8	319.2	345.8	375.9	410.8	454.7
137.5°	249.9	252.3	259.8	270.8	285.8	303.4	325.6	349.7	375.8	406.4	442.7
140°	257.1	259.0	266.4	278.0	292.5	309.2	330.4	352.8	376.8	403.5	436.2
142.5°	264.1	266.2	273.2	284.5	298.5	314.7	334.8	355.4	377.8	402.0	431.1
145°	275.0	276.9	283.7	293.2	306.2	321.5	339.6	358.4	378.6	400.2	423.8
147.5°	287.4	287.8	293.8	303.6	314.4	328.1	345.2	361.6	379.3	397.7	417.5
150°	295.2	295.7	301.0	309.2	319.4	332.6	347.9	363.3	379.3	396.0	413.5
152.5°	301.7	301.8	307.3	315.0	324.4	336.5	350.2	364.4	378.2	393.2	409.0
155°	311.7	312.4	316.6	323.5	331.2	341.6	353.5	365.3	376.5	389.1	402.3
157.5°	321.6	321.6	325.5	330.9	337.6	345.8	355.9	365.3	374.7	384.8	395.5
160°	327.7	327.7	330.5	335.4	341.0	348.7	357.0	365.3	373.0	381.4	390.5
162.5°	333.3	332.7	334.9	339.3	344.3	350.3	358.1	365.3	371.4	378.1	386.0
165°	339.6	339.6	341.0	344.5	347.9	352.1	358.4	364.0	368.2	373.0	378.6
167.5°	345.8	345.2	345.8	348.5	350.4	353.7	358.3	362.3	364.8	368.0	371.9
170°	348.7	347.9	348.7	350.7	352.1	354.2	357.7	361.1	362.6	364.6	367.5
172.5°	351.4	350.7	350.9	352.4	353.2	354.7	357.1	360.1	360.3	361.3	363.6
175°	354.2	353.5	353.5	354.2	354.9	354.9	356.3	358.4	357.7	357.7	359.1
177.5°	355.4	354.9	354.4	354.9	354.9	354.9	355.4	356.6	355.4	355.4	356.0
180°	354.9	354.9	354.9	354.9	354.9	354.9	354.9	354.9	354.9	354.9	354.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	847.0	847.0	847.0	847.0	847.0	847.0	847.0	847.0
2.5°	844.0	845.3	846.4	846.9	846.8	846.6	846.4	846.2
5°	841.9	843.6	845.2	846.0	845.7	845.5	845.3	845.1
7.5°	837.3	839.2	841.2	842.0	841.8	841.5	841.3	841.2
10°	832.8	834.6	836.6	837.4	837.2	837.0	836.8	836.6
12.5°	826.3	828.1	829.8	830.6	830.6	830.5	830.5	830.5
15°	814.8	816.6	818.5	819.4	819.2	818.9	818.8	818.5
17.5°	800.6	802.5	804.5	805.4	805.2	805.0	804.9	804.7
20°	789.5	791.7	793.8	794.9	794.9	794.9	794.9	794.9
22.5°	776.7	778.7	780.9	782.1	782.5	782.7	783.1	783.5
25°	756.8	759.1	761.4	762.7	762.9	763.1	763.3	763.6
27.5°	734.4	736.6	738.8	739.9	740.2	740.5	740.7	740.9
30°	718.8	721.1	723.4	724.9	725.3	725.7	726.1	726.6
32.5°	702.8	705.5	708.1	709.7	710.1	710.5	711.0	711.4
35°	677.4	680.4	683.3	685.1	685.7	686.3	687.1	687.7
37.5°	650.9	654.0	656.9	658.8	659.4	660.1	660.8	661.5
40°	632.3	635.5	638.6	640.6	641.5	642.3	643.2	644.0
42.5°	614.0	617.5	621.0	623.1	623.8	624.5	625.2	625.8
45°	585.8	589.3	592.9	595.2	596.3	597.4	598.4	599.4
47.5°	555.8	559.5	563.3	565.7	567.0	568.3	569.5	570.8
50°	534.8	539.0	543.2	546.0	547.2	548.6	549.8	551.1
52.5°	513.6	517.8	522.0	524.8	526.0	527.3	528.5	529.9
55°	481.7	486.0	490.2	492.9	494.2	495.4	496.7	497.9
57.5°	448.3	453.3	458.3	461.4	462.5	463.7	464.9	466.1
60°	425.2	430.0	434.8	438.1	439.8	441.5	443.2	444.9
62.5°	402.3	407.2	412.1	415.4	417.1	418.7	420.4	422.0
65°	367.2	372.5	377.7	381.2	382.9	384.6	386.2	387.9
67.5°	332.6	338.0	343.3	346.8	348.5	350.1	351.8	353.4
70°	308.3	314.0	319.7	323.2	324.7	326.2	327.6	329.1
72.5°	285.2	290.7	296.2	299.8	301.4	303.1	304.7	306.4
75°	249.9	255.7	261.7	265.6	267.5	269.4	271.3	273.1
77.5°	217.0	223.0	229.0	233.0	235.1	237.0	239.1	241.1
80°	195.7	202.1	208.4	212.3	214.0	215.7	217.4	219.1
82.5°	174.8	181.3	187.8	192.0	193.8	195.6	197.5	199.4
85°	145.4	151.8	158.1	162.3	164.4	166.5	168.6	170.8
87.5°	123.1	129.3	135.5	139.6	141.5	143.6	145.3	147.1
90°	118.7	125.5	132.3	136.2	138.6	141.0	142.0	143.7
92.5°	238.2	210.3	195.1	185.0	178.4	176.4	175.7	177.4
95°	610.6	508.2	420.4	356.6	324.3	304.6	294.0	286.8
97.5°	851.0	816.4	753.8	684.6	636.3	596.2	577.1	564.4
100°	924.3	944.0	915.5	867.5	808.3	767.2	747.8	743.7
102.5°	916.3	991.0	1006.4	988.6	953.0	923.8	903.4	900.5
105°	854.1	980.0	1054.3	1086.3	1089.4	1085.5	1077.5	1075.0
107.5°	768.7	902.4	1004.8	1070.3	1106.3	1123.6	1132.2	1135.5
110°	717.1	842.6	948.5	1028.5	1079.7	1110.6	1124.9	1132.8





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	677.8	789.2	889.4	969.3	1027.2	1064.3	1083.5	1095.4
115°	636.8	727.2	813.3	883.3	940.0	983.2	1007.0	1014.1
117.5°	613.2	688.7	757.2	817.0	865.7	902.5	926.8	932.7
120°	601.3	670.4	730.4	782.8	824.3	856.7	876.5	885.8
122.5°	590.8	657.6	712.7	758.8	794.0	821.7	838.6	847.7
125°	574.3	638.2	690.4	731.3	760.5	781.9	796.5	801.9
127.5°	554.2	615.3	667.1	706.1	735.5	754.9	767.5	773.1
130°	539.2	598.1	649.3	688.8	718.6	737.4	749.8	755.2
132.5°	524.1	579.5	629.5	668.8	698.1	719.1	730.9	736.4
135°	501.9	550.6	596.6	633.7	662.9	683.7	696.1	701.5
137.5°	482.3	523.8	562.7	596.3	623.4	643.7	654.0	660.0
140°	471.1	506.6	540.6	571.9	597.4	613.7	624.6	631.2
142.5°	461.0	492.3	521.7	548.7	571.1	586.3	595.8	600.6
145°	447.4	472.3	494.5	515.1	533.4	546.1	553.9	558.2
147.5°	436.1	455.1	472.0	487.8	501.3	512.1	518.1	520.0
150°	430.2	446.2	460.2	472.7	483.9	492.9	497.1	497.8
152.5°	424.1	437.8	450.7	461.0	470.5	477.9	480.4	481.1
155°	414.8	426.1	436.5	444.9	451.8	457.4	459.5	459.5
157.5°	404.9	414.3	423.1	429.8	435.1	439.3	440.5	440.5
160°	398.9	406.5	414.2	419.7	423.9	428.1	428.8	428.8
162.5°	392.7	399.2	405.3	410.3	413.3	417.5	418.2	417.7
165°	384.1	388.3	393.2	396.7	399.5	402.3	401.6	400.9
167.5°	375.9	379.2	383.1	385.1	386.6	388.3	388.3	387.6
170°	371.0	373.0	375.9	377.9	379.3	380.0	379.3	379.3
172.5°	366.5	368.0	369.7	371.2	372.0	372.7	372.0	371.0
175°	360.5	361.1	362.6	362.6	362.6	364.0	362.6	361.1
177.5°	356.6	357.1	357.1	357.7	357.1	357.7	356.6	355.4
180°	354.9	354.9	354.9	354.9	354.9	354.9	354.9	354.9

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