

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: P332880-930

Luminaire Tested: **S124RDIP-S350D810U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332880-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124RDIP-S350D810U930-4F0-1E-UDD-F  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 810 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3803.3 lumens  
Efficiency: N/A  
Efficacy: 121.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

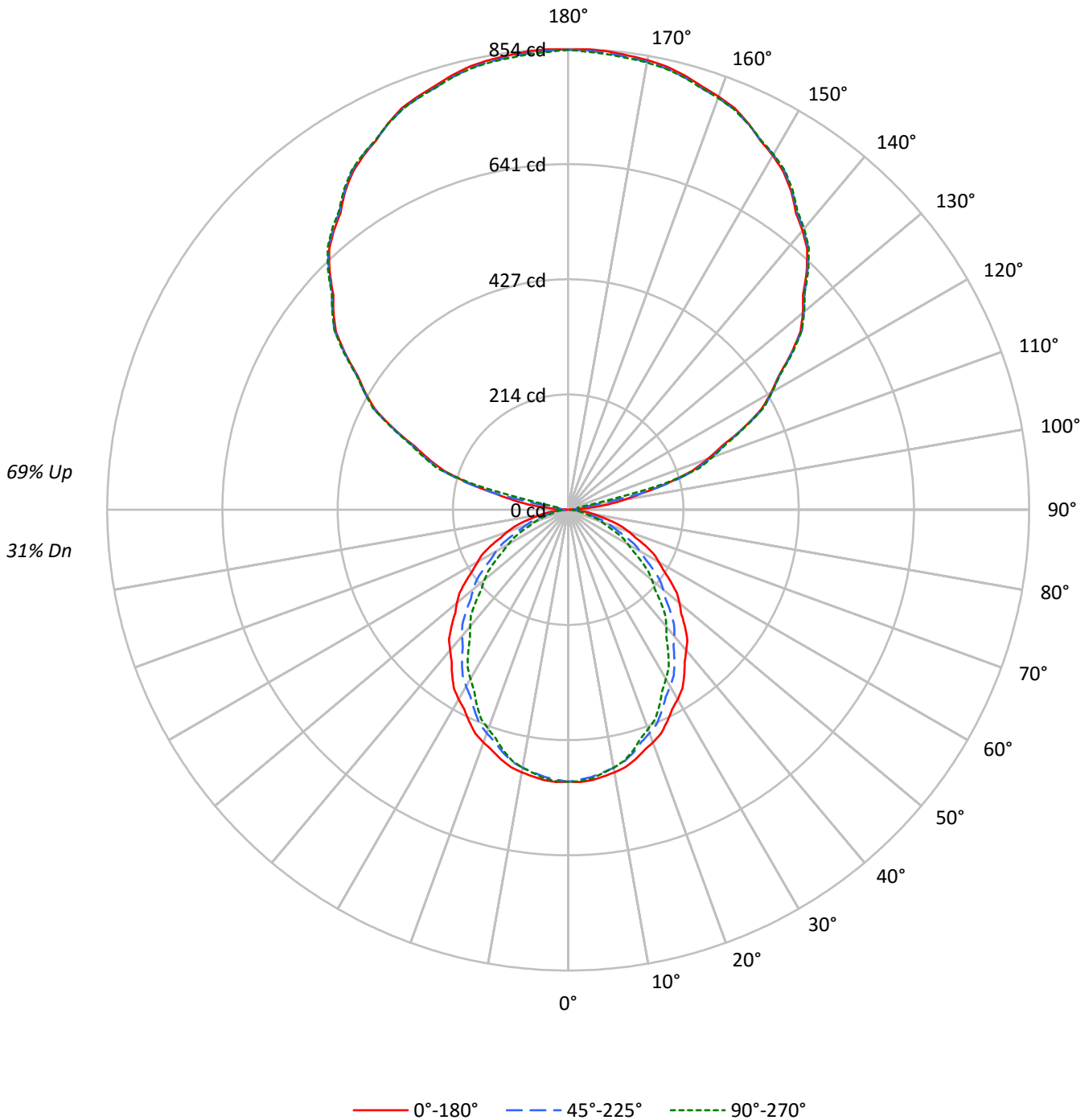
Input Watts (W): 31.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	92	92	92	92	73	73	73	55	55	55	38	38	38	31
1	94	89	86	82	84	81	77	75	64	62	60	48	47	46	34	33	33	26
2	85	78	72	68	76	71	66	61	56	53	50	43	40	38	30	29	28	22
3	78	69	62	56	70	62	56	51	49	45	42	38	35	33	27	25	24	19
4	71	61	53	48	64	55	49	44	44	39	36	34	31	28	24	22	21	16
5	65	54	46	41	58	49	42	37	39	34	31	30	27	24	22	20	18	14
6	60	49	41	35	54	44	37	32	35	30	27	27	24	21	20	18	16	13
7	56	44	36	31	50	40	33	28	32	27	24	25	21	19	18	16	14	11
8	51	40	32	27	46	36	30	25	29	24	21	23	19	17	17	14	13	10
9	48	36	29	24	43	33	27	22	27	22	19	21	17	15	15	13	11	9
10	45	33	26	21	40	30	24	20	24	20	17	19	16	13	14	12	10	8

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

	0°	45°	90°
0°	4069	4069	4069
5°	4078	4028	4053
10°	4052	3980	3980
15°	4006	3896	3867
20°	3942	3786	3716
25°	3861	3657	3564
30°	3781	3522	3375
35°	3693	3381	3183
40°	3587	3222	2977
45°	3490	3062	2767
50°	3378	2880	2545
55°	3258	2688	2303
60°	3127	2480	2055
65°	3007	2220	1813
70°	2832	1931	1539
75°	2611	1603	1251
80°	2278	1223	1148
85°	1936	1112	1037



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	47.3	1.2
10°-20°	132.0	3.5
20°-30°	190.6	5.0
30°-40°	216.1	5.7
40°-50°	208.7	5.5
50°-60°	173.5	4.6
60°-70°	119.8	3.2
70°-80°	60.7	1.6
80°-90°	18.0	0.5
90°-100°	29.1	0.8
100°-110°	185.9	4.9
110°-120°	355.6	9.3
120°-130°	451.4	11.9
130°-140°	482.9	12.7
140°-150°	451.6	11.9
150°-160°	364.2	9.6
160°-170°	234.9	6.2
170°-180°	81.0	2.1
0°-30°	370.0	9.7
0°-40°	586.1	15.4
0°-60°	968.3	25.5
0°-90°	1166.9	30.7
90°-120°	570.6	15.0
90°-150°	1956.4	51.4
90°-180°	2636.0	69.3
0°-180°	3803.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	504	504	504	504	504	
5°	503	502	497	501	500	48
15°	479	475	466	465	463	135
25°	433	426	411	404	400	200
35°	375	362	343	330	323	234
45°	306	291	268	250	242	236
55°	232	216	191	172	164	207
65°	157	140	116	100	95	155
75°	84	69	51	43	40	88
85°	21	13	12	11	11	24
90°	2	9	14	18	19	3
95°	35	15	14	18	18	45
105°	192	196	199	203	182	201
115°	358	360	360	361	361	352
125°	504	506	505	507	507	449
135°	625	624	627	628	629	481
145°	720	722	722	723	724	450
155°	790	790	789	791	789	364
165°	833	830	830	834	829	235
175°	852	849	849	854	847	81
180°	852	852	852	852	852	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0
2.5°	505.2	504.9	504.7	504.4	504.1	503.6	502.9	502.1	501.3	500.6	501.3
5°	503.2	502.9	502.6	502.2	501.8	501.2	500.1	499.1	498.1	497.1	497.9
7.5°	498.6	498.3	498.0	497.6	497.3	496.4	495.0	493.7	492.4	491.1	491.5
10°	494.3	493.9	493.5	493.1	492.6	491.6	490.1	488.5	487.0	485.5	485.8
12.5°	488.8	488.3	487.8	487.3	486.8	485.7	483.8	482.0	480.2	478.3	478.6
15°	479.3	478.5	477.8	477.0	476.2	474.7	472.6	470.4	468.3	466.2	466.0
17.5°	467.8	466.7	465.5	464.5	463.3	461.5	458.9	456.3	453.8	451.2	450.7
20°	458.9	457.7	456.6	455.5	454.4	452.4	449.5	446.5	443.6	440.7	440.0
22.5°	449.0	447.7	446.5	445.2	443.9	441.7	438.6	435.5	432.4	429.3	428.3
25°	433.4	431.9	430.3	428.8	427.2	424.7	421.2	417.7	414.1	410.6	409.1
27.5°	417.0	415.1	413.1	411.2	409.3	406.4	402.7	398.9	395.2	391.4	389.6
30°	405.6	403.4	401.3	399.2	397.1	394.0	389.9	385.9	381.8	377.8	375.7
32.5°	393.5	391.1	388.7	386.3	383.8	380.6	376.4	372.3	368.1	363.9	361.4
35°	374.7	371.9	369.2	366.5	363.7	360.2	356.0	351.6	347.4	343.1	340.1
37.5°	354.6	351.7	348.9	346.1	343.2	339.5	334.7	330.0	325.2	320.5	317.2
40°	340.4	337.5	334.7	331.9	329.1	325.2	320.3	315.4	310.5	305.7	302.1
42.5°	326.8	323.8	320.8	317.9	315.0	310.9	305.8	300.7	295.6	290.5	286.8
45°	305.7	302.5	299.3	296.1	292.9	288.8	283.6	278.5	273.4	268.2	264.0
47.5°	283.8	280.5	277.3	273.9	270.7	266.4	261.1	255.7	250.3	245.0	240.6
50°	269.0	265.6	262.3	258.9	255.6	251.2	245.7	240.2	234.7	229.3	224.9
52.5°	253.9	250.5	247.3	244.0	240.8	236.3	230.6	225.0	219.4	213.8	209.5
55°	231.5	228.1	224.7	221.3	217.8	213.3	207.7	202.2	196.6	191.0	186.5
57.5°	209.5	205.9	202.4	198.8	195.2	190.7	185.2	179.7	174.2	168.7	164.2
60°	193.7	190.3	186.9	183.4	180.0	175.5	170.1	164.5	159.1	153.6	149.1
62.5°	179.5	175.9	172.4	168.8	165.3	160.7	155.1	149.4	143.8	138.2	134.0
65°	157.4	153.8	150.1	146.4	142.7	138.1	132.6	127.1	121.6	116.2	112.5
67.5°	134.5	131.0	127.4	123.9	120.4	116.1	111.0	105.9	100.8	95.7	92.5
70°	120.0	116.4	112.8	109.3	105.6	101.3	96.4	91.6	86.7	81.8	79.0
72.5°	104.6	101.3	98.1	94.8	91.6	87.6	83.0	78.4	73.8	69.1	66.8
75°	83.7	80.6	77.4	74.2	71.0	67.4	63.4	59.4	55.4	51.4	49.3
77.5°	62.6	59.9	57.2	54.5	51.9	48.8	45.6	42.3	39.1	35.8	34.7
80°	49.0	46.6	44.0	41.6	39.1	36.5	34.0	31.4	28.8	26.3	26.0
82.5°	37.3	35.0	32.7	30.4	28.1	26.3	24.8	23.3	21.9	20.4	20.2
85°	20.9	19.2	17.4	15.7	13.9	13.0	12.7	12.5	12.2	12.0	11.8
87.5°	7.5	7.3	7.0	6.8	6.5	6.5	6.7	6.8	6.9	7.1	7.3
90°	1.9	3.5	5.1	6.6	8.2	9.5	10.6	11.7	12.9	14.0	14.8
92.5°	8.1	8.2	8.2	8.3	8.4	9.0	10.1	11.3	12.4	13.5	14.3
95°	35.1	30.2	25.4	20.6	15.8	13.5	13.6	13.8	13.9	14.0	14.8
97.5°	74.4	77.5	80.5	83.5	86.5	80.1	64.2	48.4	32.6	16.8	16.9
100°	104.5	107.1	109.7	112.2	114.7	106.2	86.7	67.2	47.6	28.0	25.6
102.5°	138.2	140.1	141.9	143.8	145.7	145.4	142.8	140.2	137.7	135.2	109.2
105°	191.8	192.7	193.6	194.4	195.3	196.1	196.7	197.5	198.2	198.9	200.2
107.5°	241.7	242.1	242.6	243.0	243.4	244.1	245.1	246.1	247.0	248.0	248.6
110°	275.4	275.8	276.2	276.6	277.1	277.7	278.6	279.4	280.3	281.1	281.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	308.0	308.8	309.6	310.3	311.1	311.7	312.1	312.4	312.8	313.2	313.2
115°	358.2	358.7	359.1	359.5	360.0	360.1	360.0	359.8	359.7	359.5	359.8
117.5°	403.5	404.1	404.6	405.2	405.8	406.3	406.5	406.8	407.2	407.5	407.4
120°	434.1	434.7	435.3	435.9	436.3	436.6	436.4	436.3	436.2	436.0	436.3
122.5°	462.7	463.0	463.3	463.7	464.1	464.3	464.5	464.7	464.9	465.1	465.3
125°	503.6	504.2	504.8	505.3	505.9	506.0	505.7	505.5	505.2	504.9	505.3
127.5°	542.3	542.5	542.7	542.8	542.9	543.3	544.0	544.6	545.3	545.9	545.8
130°	567.4	567.5	567.6	567.8	567.9	568.2	568.6	569.1	569.5	569.9	570.1
132.5°	590.3	590.5	590.8	591.1	591.3	591.7	592.2	592.8	593.3	593.9	594.0
135°	624.8	624.6	624.4	624.3	624.2	624.4	624.9	625.5	626.1	626.6	626.9
137.5°	655.2	655.3	655.3	655.3	655.4	655.7	656.4	657.0	657.6	658.3	658.6
140°	675.1	675.4	675.6	676.0	676.2	676.5	676.8	677.1	677.4	677.6	678.1
142.5°	692.9	693.4	694.0	694.5	695.0	695.3	695.5	695.7	695.9	696.0	696.3
145°	720.3	720.8	721.2	721.6	722.0	722.3	722.3	722.3	722.3	722.3	722.4
147.5°	742.2	743.0	743.7	744.5	745.3	745.7	745.5	745.3	745.2	745.1	745.2
150°	758.0	758.6	759.1	759.7	760.2	760.4	760.3	760.2	760.0	759.9	759.9
152.5°	771.2	771.7	772.1	772.6	773.1	773.1	772.9	772.7	772.3	772.1	772.3
155°	789.9	789.9	790.1	790.3	790.4	790.3	789.9	789.4	789.0	788.6	789.1
157.5°	805.5	805.4	805.4	805.3	805.2	804.9	804.4	804.0	803.5	803.0	803.7
160°	814.7	814.2	813.8	813.4	813.0	812.7	812.6	812.4	812.3	812.1	813.0
162.5°	822.9	822.3	821.7	821.3	820.7	820.4	820.2	820.1	819.9	819.8	820.7
165°	833.2	832.5	831.8	831.0	830.4	830.0	830.0	830.0	830.0	830.0	831.1
167.5°	841.3	840.6	839.8	839.1	838.4	838.0	837.9	837.8	837.7	837.6	838.9
170°	846.0	845.1	844.2	843.3	842.5	842.2	842.3	842.4	842.6	842.8	843.8
172.5°	849.0	848.2	847.3	846.4	845.6	845.2	845.4	845.5	845.6	845.8	846.9
175°	852.3	851.4	850.6	849.8	848.9	848.6	848.7	848.8	849.0	849.1	850.4
177.5°	853.9	853.0	852.2	851.4	850.7	850.4	850.6	850.8	851.1	851.3	852.2
180°	852.3	852.3	852.3	852.3	852.3	852.3	852.3	852.3	852.3	852.3	852.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0
2.5°	502.1	502.9	503.6	503.9	503.9	503.9	503.8	503.7
5°	498.8	499.6	500.5	500.8	500.7	500.5	500.3	500.1
7.5°	492.1	492.7	493.3	493.3	493.1	492.8	492.5	492.3
10°	486.2	486.5	486.8	486.8	486.5	486.2	485.8	485.5
12.5°	478.7	479.0	479.2	479.1	478.6	478.1	477.6	477.1
15°	465.9	465.7	465.5	465.1	464.5	463.9	463.3	462.7
17.5°	450.2	449.8	449.3	448.6	447.7	446.8	445.9	445.0
20°	439.4	438.6	438.0	437.1	435.9	434.8	433.7	432.6
22.5°	427.2	426.2	425.2	424.2	423.3	422.4	421.5	420.5
25°	407.6	406.3	404.8	403.7	402.8	401.9	401.0	400.1
27.5°	387.8	386.0	384.2	382.7	381.4	380.2	379.0	377.7
30°	373.5	371.4	369.2	367.5	366.1	364.8	363.4	362.0
32.5°	359.0	356.4	354.0	352.0	350.7	349.4	348.1	346.8
35°	337.2	334.4	331.4	329.2	327.7	326.1	324.6	323.0
37.5°	314.0	310.7	307.4	305.0	303.5	301.9	300.4	298.8
40°	298.4	294.8	291.2	288.7	287.1	285.6	284.1	282.5
42.5°	283.2	279.5	275.8	273.2	271.6	269.9	268.3	266.8
45°	259.8	255.6	251.4	248.5	247.0	245.4	243.9	242.4
47.5°	236.3	231.9	227.6	224.5	222.8	221.1	219.4	217.8
50°	220.6	216.4	212.1	209.1	207.5	205.9	204.2	202.6
52.5°	205.0	200.7	196.4	193.3	191.7	190.0	188.3	186.5
55°	182.1	177.7	173.2	170.2	168.5	166.9	165.3	163.6
57.5°	159.6	155.2	150.6	147.7	146.5	145.3	144.0	142.8
60°	144.6	140.2	135.7	132.8	131.4	130.1	128.7	127.3
62.5°	130.0	125.8	121.7	119.1	118.0	116.9	115.8	114.7
65°	108.8	105.1	101.4	99.1	98.0	97.0	96.0	94.9
67.5°	89.4	86.2	83.0	80.9	79.7	78.6	77.5	76.3
70°	76.1	73.3	70.5	68.6	67.8	66.9	66.0	65.2
72.5°	64.3	61.9	59.5	57.9	57.1	56.3	55.5	54.7
75°	47.4	45.4	43.5	42.2	41.7	41.2	40.7	40.1
77.5°	33.5	32.4	31.2	30.6	30.4	30.2	30.1	29.9
80°	25.8	25.4	25.2	25.0	24.9	24.9	24.8	24.7
82.5°	20.0	19.8	19.6	19.5	19.4	19.3	19.2	19.2
85°	11.7	11.4	11.3	11.2	11.2	11.2	11.2	11.2
87.5°	7.3	7.4	7.5	7.7	7.7	7.9	8.0	8.2
90°	15.7	16.6	17.4	18.0	18.3	18.6	18.8	19.2
92.5°	15.2	16.1	16.9	17.4	17.4	17.4	17.5	17.6
95°	15.7	16.6	17.4	17.9	18.1	18.2	18.3	18.5
97.5°	17.0	17.1	17.2	17.3	17.4	17.5	17.7	17.9
100°	23.2	20.8	18.4	17.3	17.4	17.5	17.7	17.9
102.5°	83.2	57.2	31.2	18.3	18.3	18.3	18.3	18.3
105°	201.5	202.7	204.0	202.1	197.0	191.8	186.8	181.6
107.5°	249.2	249.8	250.5	251.0	251.6	252.1	252.7	253.2
110°	281.7	282.0	282.3	282.6	283.1	283.5	283.9	284.3





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	313.2	313.1	313.0	313.2	313.8	314.4	314.9	315.4
115°	360.1	360.4	360.7	360.9	360.9	360.9	360.9	360.9
117.5°	407.3	407.3	407.2	407.2	407.2	407.1	407.0	407.0
120°	436.6	436.9	437.2	437.2	436.9	436.6	436.3	436.0
122.5°	465.5	465.6	465.8	465.7	465.5	465.1	464.9	464.6
125°	505.7	506.1	506.5	506.9	507.0	507.1	507.3	507.4
127.5°	545.8	545.7	545.6	545.5	545.4	545.3	545.2	545.0
130°	570.2	570.3	570.5	570.5	570.5	570.5	570.5	570.5
132.5°	594.2	594.3	594.4	594.4	594.4	594.2	594.1	594.0
135°	627.2	627.5	627.8	628.0	628.4	628.6	628.9	629.2
137.5°	658.8	659.2	659.5	659.6	659.5	659.4	659.3	659.3
140°	678.5	678.9	679.3	679.6	679.8	679.9	680.0	680.2
142.5°	696.6	696.9	697.2	697.4	697.4	697.5	697.5	697.5
145°	722.5	722.7	722.8	723.0	723.3	723.6	723.9	724.1
147.5°	745.3	745.4	745.5	745.7	745.8	745.9	746.1	746.2
150°	759.9	759.9	759.9	759.9	760.1	760.2	760.3	760.5
152.5°	772.6	772.8	773.0	773.1	773.0	772.9	772.8	772.7
155°	789.7	790.3	790.8	790.9	790.4	790.0	789.6	789.2
157.5°	804.5	805.2	805.9	805.9	805.2	804.5	803.7	803.0
160°	813.8	814.7	815.5	815.5	814.7	813.8	813.0	812.1
162.5°	821.5	822.3	823.2	823.1	822.1	821.2	820.3	819.3
165°	832.3	833.4	834.5	834.5	833.2	831.9	830.6	829.3
167.5°	840.2	841.4	842.6	842.5	841.1	839.7	838.3	836.9
170°	845.0	846.1	847.3	847.1	845.7	844.3	842.9	841.5
172.5°	848.1	849.2	850.4	850.1	848.6	847.1	845.5	844.0
175°	851.7	853.0	854.2	854.0	852.3	850.6	848.9	847.2
177.5°	853.1	854.0	854.9	854.7	853.3	852.0	850.6	849.2
180°	852.3	852.3	852.3	852.3	852.3	852.3	852.3	852.3

(END OF REPORT)