

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: P332881-940

Luminaire Tested: **S124RDIP-S350D810U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332881-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124RDIP-S350D810U940-4F0-1E-UDD-F1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 810 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3777.1 lumens  
Efficiency: N/A  
Efficacy: 121.1 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

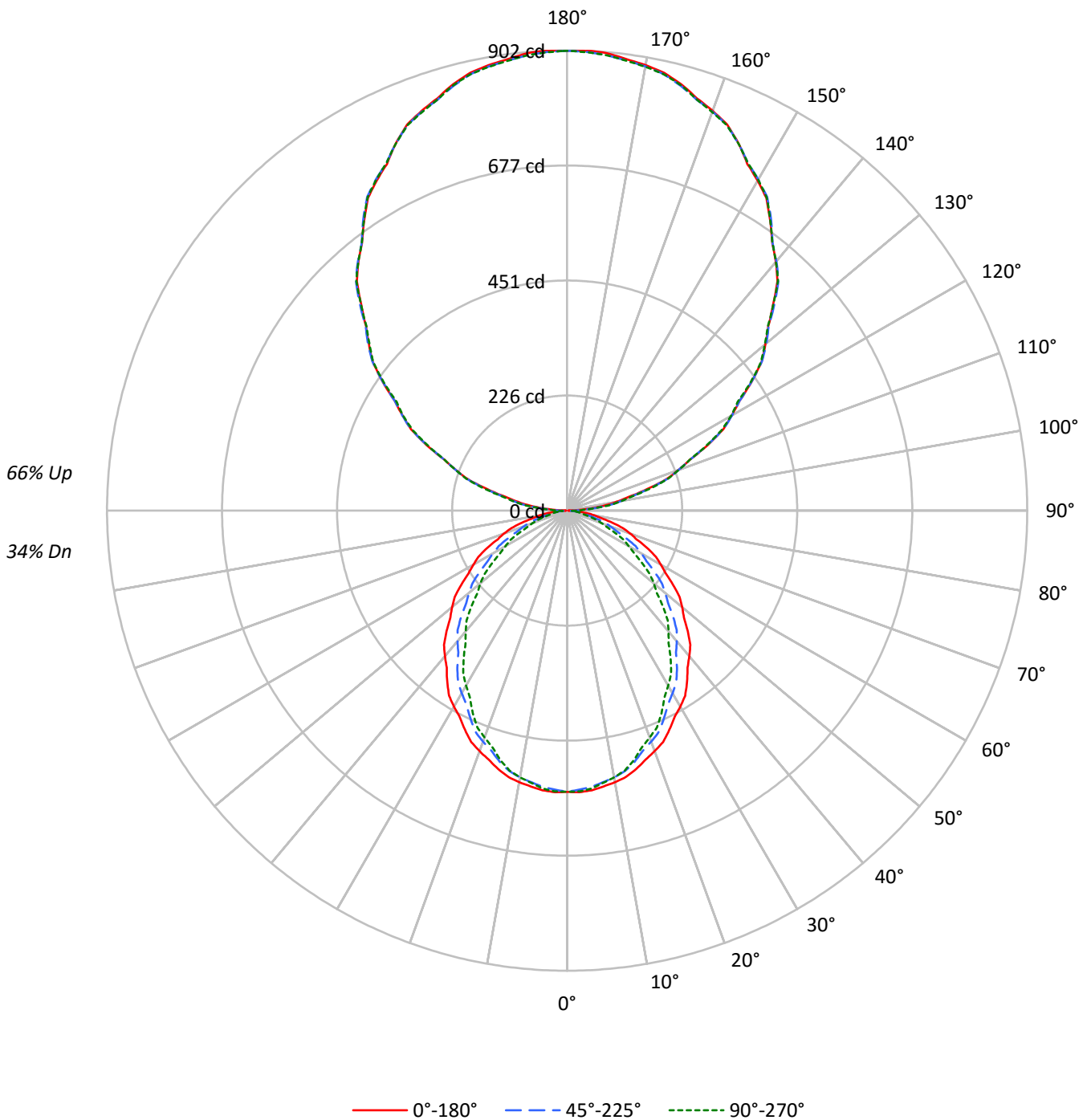
Input Watts (W): 31.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	93	93	93	93	74	74	74	57	57	57	41	41	41	34
1	94	90	86	83	85	82	78	76	65	63	61	50	49	48	37	36	35	29
2	86	79	73	68	77	71	66	62	57	54	51	44	42	40	32	31	30	24
3	79	69	62	57	71	63	57	52	51	46	43	39	37	34	29	27	26	21
4	72	61	54	48	65	56	49	44	45	40	37	35	32	29	26	24	22	18
5	66	55	47	41	59	50	43	38	40	35	32	32	28	25	23	21	19	16
6	61	49	41	36	55	45	38	33	36	31	28	29	25	22	21	19	17	14
7	56	44	37	31	50	40	34	29	33	28	24	26	22	20	19	17	15	12
8	52	40	33	27	47	37	30	25	30	25	21	24	20	18	18	15	14	11
9	48	37	29	24	44	33	27	23	27	23	19	22	18	16	16	14	12	10
10	45	33	26	22	41	31	24	20	25	20	17	20	17	14	15	13	11	9

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

	0°	45°	90°
0°	4451	4451	4451
5°	4460	4406	4433
10°	4432	4353	4353
15°	4381	4262	4229
20°	4312	4141	4064
25°	4222	4000	3899
30°	4135	3852	3691
35°	4039	3698	3482
40°	3923	3523	3256
45°	3817	3350	3027
50°	3695	3149	2783
55°	3564	2940	2519
60°	3421	2713	2249
65°	3289	2428	1983
70°	3099	2110	1683
75°	2857	1753	1369
80°	2492	1334	1255
85°	2112	1213	1130



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	51.8	1.4
10°-20°	144.4	3.8
20°-30°	208.5	5.5
30°-40°	236.4	6.3
40°-50°	228.2	6.0
50°-60°	189.8	5.0
60°-70°	131.1	3.5
70°-80°	66.4	1.8
80°-90°	19.7	0.5
90°-100°	59.5	1.6
100°-110°	176.1	4.7
110°-120°	298.9	7.9
120°-130°	394.2	10.4
130°-140°	442.7	11.7
140°-150°	435.0	11.5
150°-160°	365.9	9.7
160°-170°	243.4	6.4
170°-180°	85.2	2.3
0°-30°	404.7	10.7
0°-40°	641.0	17.0
0°-60°	1059.1	28.0
0°-90°	1276.3	33.8
90°-120°	534.5	14.2
90°-150°	1806.3	47.8
90°-180°	2501.0	66.2
0°-180°	3777.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	551	551	551	551	551	
5°	550	548	544	548	547	52
15°	524	520	510	509	506	148
25°	474	466	449	442	438	218
35°	410	396	375	361	353	256
45°	334	318	293	273	265	258
55°	253	236	209	188	179	226
65°	172	154	127	110	104	170
75°	92	76	56	47	44	97
85°	23	15	13	12	12	26
90°	2	10	15	19	21	4
95°	42	48	53	55	55	47
105°	162	163	166	168	170	172
115°	304	304	303	302	301	300
125°	443	443	442	441	439	394
135°	571	575	575	574	572	442
145°	694	696	697	696	694	434
155°	795	795	794	796	794	366
165°	865	863	862	865	863	244
175°	900	897	896	900	896	85
180°	901	901	901	901	901	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3
2.5°	552.6	552.2	552.0	551.7	551.3	550.8	550.0	549.2	548.3	547.5	548.3
5°	550.4	550.0	549.7	549.3	548.8	548.1	547.0	545.9	544.7	543.7	544.6
7.5°	545.4	545.0	544.7	544.2	543.9	542.9	541.4	539.9	538.5	537.1	537.6
10°	540.6	540.2	539.8	539.3	538.8	537.7	536.0	534.3	532.6	531.0	531.4
12.5°	534.6	534.0	533.5	533.0	532.4	531.2	529.1	527.2	525.2	523.2	523.4
15°	524.2	523.3	522.5	521.7	520.8	519.2	516.9	514.5	512.2	509.9	509.7
17.5°	511.7	510.4	509.2	508.0	506.8	504.7	501.9	499.1	496.3	493.5	492.9
20°	501.9	500.6	499.4	498.2	497.0	494.8	491.6	488.4	485.2	482.0	481.3
22.5°	491.1	489.6	488.3	487.0	485.5	483.1	479.7	476.4	473.0	469.5	468.4
25°	474.0	472.3	470.6	469.0	467.3	464.5	460.7	456.8	452.9	449.1	447.5
27.5°	456.1	454.0	451.8	449.8	447.6	444.5	440.4	436.3	432.2	428.1	426.1
30°	443.6	441.2	438.9	436.6	434.3	430.9	426.4	422.0	417.6	413.2	410.9
32.5°	430.4	427.8	425.2	422.5	419.8	416.3	411.7	407.2	402.6	398.1	395.3
35°	409.8	406.8	403.9	400.8	397.8	394.0	389.3	384.6	380.0	375.2	372.0
37.5°	387.8	384.7	381.7	378.5	375.4	371.3	366.0	360.9	355.7	350.5	347.0
40°	372.3	369.2	366.0	363.0	359.9	355.7	350.4	345.0	339.7	334.3	330.4
42.5°	357.4	354.2	350.9	347.7	344.5	340.0	334.5	328.9	323.3	317.7	313.7
45°	334.3	330.8	327.3	323.9	320.4	315.8	310.2	304.6	299.0	293.4	288.7
47.5°	310.4	306.8	303.3	299.6	296.0	291.3	285.5	279.6	273.8	268.0	263.1
50°	294.2	290.5	286.9	283.2	279.6	274.7	268.8	262.7	256.7	250.7	246.0
52.5°	277.7	274.0	270.5	266.9	263.3	258.4	252.3	246.1	240.0	233.8	229.1
55°	253.2	249.5	245.8	242.0	238.3	233.3	227.2	221.1	215.0	208.9	204.0
57.5°	229.1	225.2	221.3	217.4	213.5	208.6	202.5	196.5	190.6	184.5	179.6
60°	211.9	208.1	204.4	200.6	196.9	192.0	186.0	179.9	174.0	168.0	163.1
62.5°	196.4	192.4	188.5	184.7	180.7	175.8	169.6	163.5	157.3	151.1	146.6
65°	172.2	168.2	164.2	160.2	156.0	151.1	145.1	139.0	133.0	127.1	123.1
67.5°	147.1	143.3	139.4	135.5	131.7	127.0	121.4	115.8	110.2	104.7	101.2
70°	131.3	127.3	123.4	119.5	115.5	110.8	105.5	100.1	94.8	89.4	86.4
72.5°	114.4	110.8	107.3	103.7	100.1	95.9	90.8	85.7	80.7	75.6	73.0
75°	91.6	88.1	84.6	81.1	77.7	73.7	69.4	64.9	60.5	56.2	53.9
77.5°	68.5	65.5	62.6	59.7	56.7	53.4	49.8	46.3	42.7	39.1	37.9
80°	53.6	50.9	48.2	45.5	42.7	39.9	37.2	34.3	31.5	28.7	28.4
82.5°	40.8	38.3	35.8	33.3	30.8	28.7	27.1	25.5	23.9	22.3	22.1
85°	22.8	21.0	19.1	17.1	15.2	14.2	13.9	13.6	13.4	13.1	12.9
87.5°	8.2	7.9	7.7	7.4	7.1	7.1	7.3	7.5	7.6	7.8	7.9
90°	2.1	3.8	5.5	7.2	8.9	10.3	11.6	12.8	14.1	15.3	16.2
92.5°	14.9	16.9	18.8	20.8	22.7	24.2	25.0	25.9	26.8	27.6	28.2
95°	41.8	43.2	44.6	46.0	47.4	48.7	49.8	50.8	51.9	53.0	53.4
97.5°	73.0	74.2	75.3	76.4	77.5	78.7	80.0	81.2	82.5	83.8	84.4
100°	97.6	98.2	98.8	99.4	100.0	101.1	102.5	103.9	105.2	106.6	107.0
102.5°	123.2	123.5	123.8	124.0	124.2	125.0	126.3	127.5	128.9	130.1	130.5
105°	162.5	162.6	162.7	162.9	163.1	163.5	164.1	164.7	165.3	165.9	166.4
107.5°	203.6	203.8	203.9	204.1	204.3	204.5	204.6	204.6	204.7	204.8	205.3
110°	231.5	231.8	232.0	232.4	232.6	232.7	232.6	232.5	232.3	232.1	231.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	260.5	260.5	260.6	260.6	260.7	260.6	260.3	260.0	259.8	259.5	259.4
115°	304.0	304.0	304.0	304.0	304.0	303.8	303.4	303.2	302.8	302.6	302.4
117.5°	344.9	345.1	345.2	345.3	345.4	345.4	345.2	344.9	344.7	344.6	344.0
120°	372.3	372.9	373.5	374.2	374.8	374.8	374.3	373.9	373.4	373.0	372.2
122.5°	400.7	400.9	401.2	401.4	401.7	401.7	401.5	401.3	401.1	400.8	400.3
125°	442.6	442.6	442.6	442.6	442.6	442.6	442.5	442.3	442.1	442.0	441.7
127.5°	480.7	481.2	481.7	482.1	482.6	482.7	482.4	482.2	482.0	481.7	481.4
130°	507.5	508.0	508.5	508.9	509.3	509.6	509.6	509.6	509.6	509.6	509.3
132.5°	534.8	535.2	535.6	535.8	536.2	536.3	536.2	536.1	535.9	535.8	535.5
135°	571.0	571.9	572.8	573.7	574.7	575.2	575.2	575.2	575.2	575.2	574.8
137.5°	610.3	610.7	611.1	611.5	612.0	612.3	612.6	612.9	613.1	613.3	613.0
140°	636.5	636.8	637.1	637.4	637.8	637.8	637.8	637.8	637.8	637.8	637.8
142.5°	660.5	660.8	661.1	661.4	661.7	661.8	661.6	661.6	661.4	661.3	661.3
145°	693.7	694.3	694.9	695.5	696.2	696.5	696.7	696.8	697.0	697.1	697.0
147.5°	726.6	727.3	728.0	728.8	729.5	729.9	729.7	729.6	729.4	729.3	729.2
150°	746.6	747.3	747.9	748.5	749.1	749.4	749.4	749.4	749.4	749.4	749.4
152.5°	765.6	766.0	766.3	766.7	767.0	767.3	767.4	767.6	767.7	767.9	768.2
155°	794.7	794.7	794.7	794.7	794.7	794.6	794.5	794.3	794.2	794.1	794.6
157.5°	819.3	818.9	818.7	818.4	818.1	818.0	818.0	818.0	817.9	817.9	818.3
160°	833.7	833.6	833.5	833.3	833.1	832.9	832.9	832.7	832.5	832.4	832.9
162.5°	847.1	846.8	846.3	846.0	845.5	845.3	845.1	845.0	844.8	844.6	845.5
165°	865.1	864.7	864.2	863.7	863.3	862.9	862.6	862.3	861.9	861.7	862.6
167.5°	879.0	878.2	877.6	877.0	876.4	876.0	876.0	876.1	876.1	876.1	877.1
170°	886.7	886.0	885.2	884.4	883.7	883.3	883.5	883.7	883.8	884.0	884.8
172.5°	892.3	891.7	891.0	890.4	889.7	889.4	889.5	889.5	889.5	889.6	890.6
175°	900.0	899.2	898.4	897.7	896.9	896.4	896.3	896.1	896.0	895.8	896.9
177.5°	902.5	901.9	901.3	900.6	900.0	899.7	899.7	899.7	899.7	899.7	900.5
180°	901.3	901.3	901.3	901.3	901.3	901.3	901.3	901.3	901.3	901.3	901.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3
2.5°	549.2	550.0	550.8	551.2	551.1	551.1	551.0	550.9
5°	545.5	546.4	547.4	547.8	547.6	547.4	547.2	547.0
7.5°	538.2	538.9	539.5	539.6	539.3	539.0	538.7	538.4
10°	531.7	532.1	532.4	532.4	532.1	531.7	531.4	531.0
12.5°	523.6	523.9	524.1	524.0	523.4	522.9	522.4	521.8
15°	509.5	509.3	509.1	508.7	508.0	507.4	506.8	506.0
17.5°	492.4	492.0	491.4	490.6	489.6	488.7	487.7	486.7
20°	480.5	479.7	479.0	478.0	476.8	475.5	474.4	473.1
22.5°	467.3	466.1	465.0	464.0	463.0	462.0	461.0	459.9
25°	445.9	444.3	442.7	441.5	440.5	439.5	438.6	437.7
27.5°	424.1	422.1	420.2	418.6	417.1	415.8	414.5	413.1
30°	408.5	406.2	403.9	401.9	400.4	399.0	397.4	395.9
32.5°	392.6	389.9	387.2	385.0	383.6	382.2	380.8	379.3
35°	368.8	365.7	362.5	360.1	358.4	356.7	355.0	353.3
37.5°	343.4	339.8	336.3	333.6	331.9	330.2	328.5	326.8
40°	326.4	322.4	318.5	315.8	314.1	312.4	310.7	309.0
42.5°	309.7	305.7	301.7	298.8	297.0	295.2	293.5	291.8
45°	284.2	279.6	274.9	271.8	270.1	268.4	266.7	265.1
47.5°	258.4	253.6	248.9	245.6	243.7	241.8	240.0	238.2
50°	241.3	236.7	231.9	228.7	226.9	225.2	223.4	221.6
52.5°	224.3	219.5	214.8	211.4	209.6	207.8	205.9	204.0
55°	199.2	194.3	189.4	186.1	184.3	182.5	180.7	179.0
57.5°	174.6	169.7	164.7	161.6	160.2	158.9	157.5	156.1
60°	158.2	153.4	148.5	145.3	143.7	142.3	140.8	139.3
62.5°	142.1	137.6	133.1	130.3	129.0	127.9	126.6	125.5
65°	119.0	114.9	110.9	108.3	107.2	106.1	105.0	103.8
67.5°	97.7	94.3	90.8	88.5	87.2	86.0	84.7	83.5
70°	83.3	80.2	77.1	75.1	74.1	73.2	72.2	71.3
72.5°	70.4	67.7	65.1	63.3	62.4	61.6	60.7	59.8
75°	51.8	49.7	47.5	46.2	45.6	45.0	44.5	43.9
77.5°	36.6	35.4	34.2	33.4	33.3	33.1	32.9	32.7
80°	28.2	27.8	27.6	27.4	27.3	27.2	27.1	27.0
82.5°	21.8	21.7	21.5	21.3	21.2	21.1	21.0	21.0
85°	12.8	12.5	12.3	12.2	12.2	12.2	12.2	12.2
87.5°	8.0	8.1	8.2	8.4	8.5	8.6	8.7	8.9
90°	17.2	18.1	19.1	19.7	20.0	20.3	20.6	21.0
92.5°	28.7	29.2	29.9	30.2	30.4	30.6	30.8	30.9
95°	53.9	54.4	54.8	55.1	55.1	55.1	55.1	55.1
97.5°	84.9	85.4	86.1	86.3	86.3	86.3	86.3	86.3
100°	107.3	107.6	107.9	108.1	108.1	108.1	108.1	108.1
102.5°	131.0	131.3	131.8	132.1	132.2	132.3	132.5	132.6
105°	166.8	167.3	167.7	168.3	168.7	169.2	169.6	170.1
107.5°	205.7	206.1	206.5	206.8	206.7	206.7	206.7	206.6
110°	231.5	231.2	230.9	231.0	231.5	231.9	232.4	232.8





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	259.3	259.3	259.2	259.2	259.3	259.4	259.5	259.6
115°	302.2	302.1	301.9	301.8	301.7	301.5	301.3	301.1
117.5°	343.5	343.0	342.4	342.0	341.7	341.3	341.1	340.7
120°	371.4	370.6	369.9	369.6	370.0	370.2	370.6	370.9
122.5°	399.8	399.3	398.8	398.2	397.6	397.1	396.5	396.0
125°	441.4	441.0	440.8	440.4	440.1	439.8	439.5	439.2
127.5°	481.1	480.8	480.5	480.2	479.9	479.7	479.5	479.2
130°	509.0	508.6	508.4	507.9	507.3	506.7	506.0	505.4
132.5°	535.2	534.8	534.6	534.3	534.0	533.8	533.5	533.3
135°	574.5	574.2	573.9	573.5	573.0	572.6	572.1	571.7
137.5°	612.5	612.2	611.7	611.5	611.6	611.7	611.8	612.0
140°	637.6	637.4	637.2	637.1	636.9	636.8	636.6	636.5
142.5°	661.2	661.2	661.2	661.1	661.1	661.1	661.0	661.0
145°	696.8	696.7	696.5	696.2	695.7	695.3	694.8	694.4
147.5°	729.1	729.0	728.8	728.7	728.5	728.3	728.3	728.1
150°	749.4	749.4	749.4	749.3	749.2	749.0	748.9	748.7
152.5°	768.6	768.9	769.3	769.3	768.9	768.5	768.1	767.7
155°	795.2	795.9	796.5	796.5	795.9	795.2	794.6	794.1
157.5°	818.8	819.3	819.7	819.7	819.2	818.7	818.1	817.6
160°	833.3	833.7	834.2	834.1	833.3	832.5	831.8	831.0
162.5°	846.3	847.1	848.0	848.0	847.2	846.5	845.7	844.9
165°	863.5	864.4	865.4	865.5	864.9	864.2	863.6	863.1
167.5°	878.0	879.0	879.9	879.9	878.9	877.9	877.0	876.0
170°	885.8	886.7	887.7	887.6	886.5	885.5	884.3	883.2
172.5°	891.6	892.7	893.8	893.8	892.7	891.5	890.5	889.4
175°	898.0	899.0	900.2	900.2	899.0	898.0	896.9	895.8
177.5°	901.4	902.3	903.2	903.1	902.1	901.2	900.2	899.1
180°	901.3	901.3	901.3	901.3	901.3	901.3	901.3	901.3

(END OF REPORT)