

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: P331600-927

Luminaire Tested: **S122DIW-S1005D970U927-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331600-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIW-S1005D970U927-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 970 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5858.3 lumens  
Efficiency: N/A  
Efficacy: 86.9 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

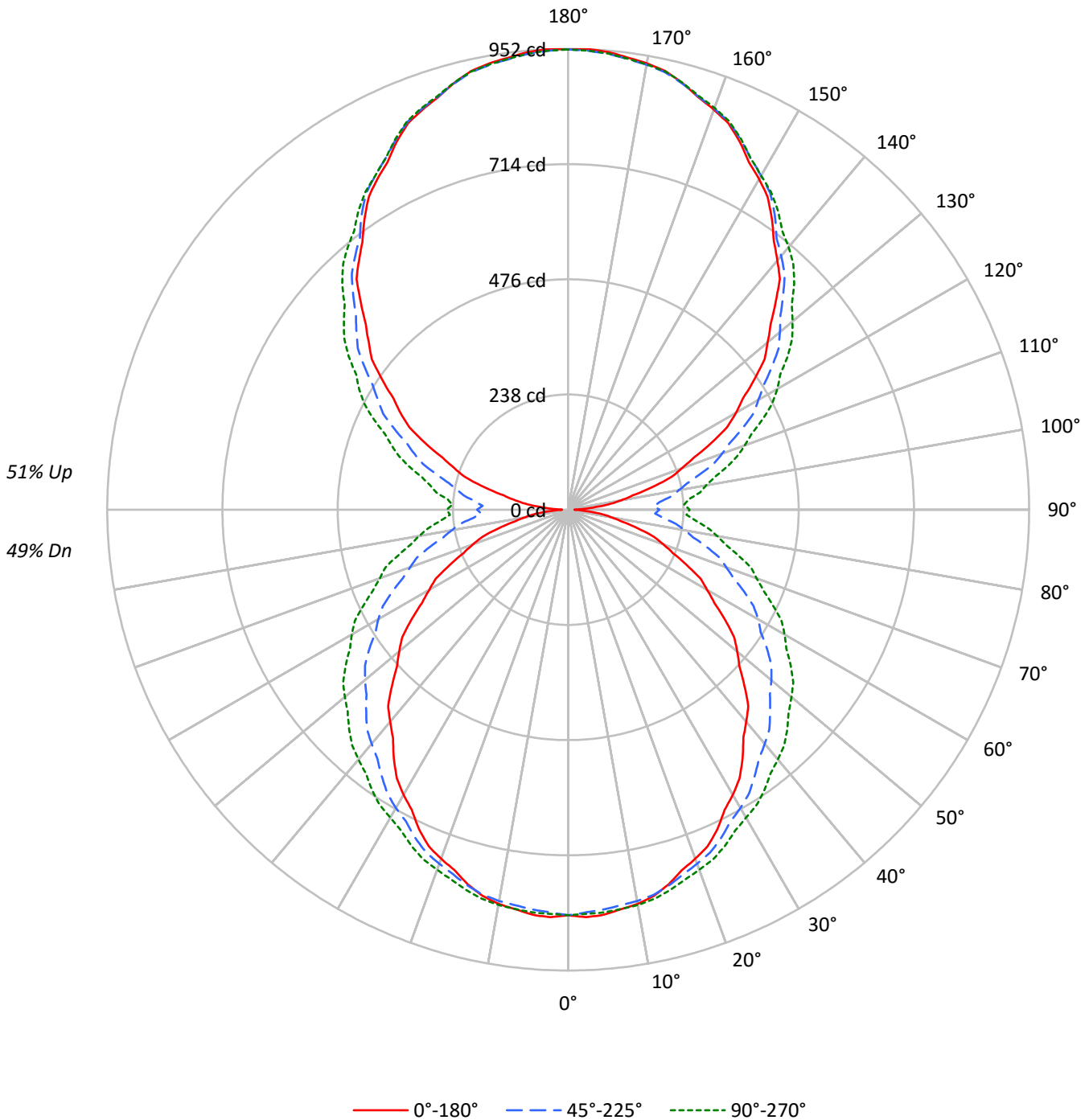
Input Watts (W): 67.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55	49
1	96	91	87	83	88	84	80	76	70	67	65	58	56	54	46	45	43	38
2	87	79	72	66	79	72	67	62	61	56	52	50	47	44	40	37	35	31
3	79	69	61	55	72	63	56	51	53	48	43	43	40	36	35	32	29	25
4	72	60	52	46	66	56	48	43	47	41	37	38	34	31	31	28	25	21
5	66	54	45	39	60	49	42	36	42	36	31	34	30	26	28	24	22	18
6	61	48	39	33	55	44	37	31	37	31	27	31	26	23	25	21	19	16
7	56	43	35	29	51	40	33	27	34	28	24	28	23	20	23	19	17	14
8	52	39	31	26	47	36	29	24	31	25	21	26	21	18	21	17	15	12
9	48	36	28	23	44	33	26	21	28	23	19	23	19	16	19	16	13	11
10	45	33	25	20	41	30	24	19	26	20	17	22	17	14	18	14	12	10

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

	0°	45°	90°
0°	13525	13525	13525
5°	13591	13020	12971
10°	13506	12635	12493
15°	13320	12228	11990
20°	13085	11791	11506
25°	12852	11370	11066
30°	12525	10939	10626
35°	12192	10521	10314
40°	11845	10165	10004
45°	11515	9846	9739
50°	11159	9559	9477
55°	10787	9249	9211
60°	10329	8927	8928
65°	9856	8551	8595
70°	9323	8147	8233
75°	8642	7750	7901
80°	7567	7345	7563
85°	6539	6995	7303



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	79.4	1.4
10°-20°	227.6	3.9
20°-30°	344.9	5.9
30°-40°	420.1	7.2
40°-50°	452.0	7.7
50°-60°	438.9	7.5
60°-70°	383.2	6.5
70°-80°	295.0	5.0
80°-90°	201.8	3.4
90°-100°	196.7	3.4
100°-110°	286.7	4.9
110°-120°	385.6	6.6
120°-130°	457.3	7.8
130°-140°	487.5	8.3
140°-150°	465.6	7.9
150°-160°	388.3	6.6
160°-170°	257.5	4.4
170°-180°	90.0	1.5
0°-30°	651.9	11.1
0°-40°	1072.0	18.3
0°-60°	1962.9	33.5
0°-90°	2843.0	48.5
90°-120°	869.0	14.8
90°-150°	2279.5	38.9
90°-180°	3015.0	51.5
0°-180°	5858.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	838	838	838	838	838	
5°	840	836	829	836	835	80
15°	801	804	804	814	813	226
25°	728	737	748	762	766	335
35°	628	648	671	697	706	392
45°	515	548	590	626	640	397
55°	395	439	501	544	561	353
65°	270	330	401	449	466	268
75°	149	218	295	345	363	158
85°	44	119	197	246	265	47
90°	13	94	188	234	251	10
95°	51	117	191	235	250	55
105°	179	218	281	323	338	189
115°	326	346	397	431	444	322
125°	469	478	513	542	554	420
135°	605	614	628	652	660	468
145°	733	739	744	752	755	458
155°	838	841	843	847	845	386
165°	912	912	912	917	913	257
175°	949	947	945	950	946	90
180°	951	951	951	951	951	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	837.7	837.7	837.7	837.7	837.7	837.7	837.7	837.7	837.7	837.7	837.7
2.5°	842.6	841.9	841.2	840.6	840.0	838.8	837.3	835.8	834.3	832.8	833.9
5°	840.1	839.3	838.5	837.7	836.9	835.7	834.1	832.4	830.8	829.2	830.8
7.5°	832.6	832.0	831.5	831.0	830.4	829.6	828.3	827.0	825.9	824.6	826.5
10°	826.8	826.2	825.7	825.1	824.6	823.9	823.2	822.3	821.5	820.7	822.8
12.5°	817.1	817.1	817.3	817.4	817.5	817.2	816.7	816.0	815.5	814.8	817.1
15°	801.3	801.8	802.3	802.9	803.4	803.7	803.7	803.7	803.7	803.7	806.1
17.5°	780.9	782.0	783.2	784.3	785.4	786.4	787.3	788.1	789.0	789.9	792.4
20°	767.3	768.7	770.0	771.3	772.7	773.9	775.0	776.0	777.1	778.2	781.2
22.5°	752.7	754.2	755.8	757.4	759.0	760.5	762.0	763.5	765.0	766.5	769.5
25°	728.4	730.3	732.2	734.1	736.0	738.2	740.5	743.0	745.4	747.8	751.1
27.5°	699.3	702.3	705.4	708.5	711.6	714.5	717.4	720.3	723.1	726.0	730.1
30°	679.9	683.3	686.9	690.4	693.9	697.4	700.9	704.4	707.9	711.5	715.7
32.5°	658.5	662.4	666.4	670.3	674.2	678.3	682.5	686.6	690.8	694.9	699.9
35°	627.6	632.2	636.8	641.4	646.0	650.9	656.0	661.1	666.2	671.4	677.3
37.5°	594.1	599.4	604.8	610.0	615.3	621.2	627.9	634.5	641.2	647.8	654.4
40°	571.8	577.7	583.7	589.6	595.6	602.1	609.4	616.7	624.0	631.3	638.3
42.5°	550.5	556.3	562.3	568.2	574.2	581.3	589.7	598.1	606.4	614.8	622.4
45°	514.8	522.0	529.3	536.6	543.9	552.2	561.7	571.2	580.6	590.0	598.4
47.5°	479.6	487.5	495.4	503.4	511.3	520.8	531.9	542.9	554.0	565.0	573.8
50°	455.3	463.7	472.0	480.4	488.7	499.0	511.1	523.2	535.4	547.6	556.7
52.5°	432.0	440.8	449.6	458.4	467.1	477.9	490.7	503.5	516.3	529.1	538.4
55°	394.6	404.3	414.0	423.7	433.4	445.3	459.3	473.3	487.4	501.4	511.1
57.5°	357.7	368.6	379.5	390.5	401.5	414.1	428.4	442.7	457.0	471.3	481.7
60°	331.4	343.0	354.7	366.2	377.9	391.3	406.7	422.1	437.4	452.8	463.1
62.5°	308.2	320.1	332.2	344.2	356.2	369.9	385.3	400.7	416.1	431.5	442.4
65°	269.5	282.7	296.0	309.2	322.4	337.0	352.9	368.8	384.7	400.6	411.7
67.5°	234.1	247.9	261.7	275.5	289.3	304.4	320.7	337.0	353.2	369.6	380.7
70°	208.8	222.8	236.9	250.9	264.9	280.3	297.1	313.8	330.5	347.2	358.8
72.5°	185.5	199.9	214.4	228.9	243.4	259.0	276.0	292.9	309.9	326.9	338.2
75°	149.3	164.5	179.5	194.6	209.8	225.9	243.2	260.5	277.7	295.0	306.6
77.5°	114.4	130.2	146.0	161.8	177.6	194.2	211.8	229.3	246.8	264.4	276.0
80°	91.0	107.5	124.0	140.5	156.9	173.9	191.4	209.0	226.5	244.0	255.3
82.5°	71.6	87.9	104.1	120.3	136.6	153.6	171.3	189.1	206.8	224.6	235.9
85°	43.7	60.4	77.2	93.9	110.6	127.6	144.9	162.2	179.4	196.7	208.0
87.5°	23.9	40.5	57.0	73.5	90.0	107.3	125.3	143.4	161.4	179.4	190.4
90°	12.9	30.7	48.5	66.3	84.1	103.6	124.8	145.9	167.2	188.3	198.8
92.5°	25.4	41.6	57.8	73.8	90.0	106.9	124.4	142.0	159.5	177.1	187.7
95°	51.4	65.9	80.3	94.8	109.3	124.8	141.3	157.9	174.4	191.0	201.2
97.5°	84.7	97.6	110.4	123.3	136.1	150.7	166.8	183.1	199.3	215.5	225.5
100°	110.4	121.8	133.2	144.7	156.1	169.5	185.2	200.8	216.5	232.1	242.1
102.5°	136.4	146.6	156.9	167.2	177.4	190.2	205.6	220.9	236.3	251.7	261.6
105°	178.6	187.0	195.3	203.7	212.0	223.4	237.7	252.2	266.6	280.9	290.7
107.5°	222.3	229.3	236.4	243.4	250.5	260.7	274.2	287.6	301.0	314.5	323.7
110°	249.6	256.0	262.5	268.9	275.4	285.3	298.5	311.7	325.0	338.2	346.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	280.4	286.0	291.6	297.2	302.8	311.8	324.2	336.7	349.1	361.6	369.7
115°	325.8	329.9	333.9	337.9	342.0	349.8	361.6	373.4	385.2	397.0	404.9
117.5°	369.9	373.2	376.6	379.9	383.3	390.1	400.4	410.6	420.8	431.0	438.6
120°	400.0	402.5	405.0	407.5	410.0	416.0	425.3	434.7	444.1	453.4	461.0
122.5°	427.6	429.8	431.9	434.0	436.2	441.8	451.0	460.1	469.3	478.4	485.3
125°	469.4	471.0	472.6	474.2	475.8	480.7	488.8	496.9	504.9	513.1	519.8
127.5°	511.3	513.0	514.8	516.6	518.3	522.4	528.7	535.0	541.3	547.6	553.7
130°	537.6	539.6	541.7	543.8	545.8	549.5	554.8	560.1	565.4	570.7	576.9
132.5°	567.1	568.8	570.4	572.0	573.6	576.6	581.1	585.5	589.9	594.4	599.9
135°	605.4	607.4	609.3	611.2	613.2	615.8	618.8	621.9	624.9	628.0	633.4
137.5°	647.0	648.5	650.1	651.6	653.2	654.7	656.4	658.1	659.7	661.4	666.2
140°	672.0	673.4	674.6	676.0	677.3	678.7	680.2	681.6	683.0	684.4	688.7
142.5°	697.7	699.0	700.4	701.6	703.0	704.0	704.7	705.4	706.2	706.9	710.5
145°	733.3	734.6	735.9	737.1	738.4	739.5	740.6	741.6	742.8	743.8	745.6
147.5°	766.3	767.8	769.3	770.7	772.2	773.3	774.0	774.8	775.5	776.2	776.8
150°	788.7	789.8	790.8	791.9	793.0	793.9	794.6	795.4	796.1	796.8	797.3
152.5°	808.7	809.7	810.8	811.8	812.9	813.9	814.8	815.6	816.4	817.3	817.9
155°	838.4	839.0	839.6	840.1	840.6	841.1	841.7	842.2	842.7	843.3	844.1
157.5°	864.0	864.4	864.7	865.1	865.4	865.8	866.1	866.4	866.7	867.0	868.2
160°	879.4	879.7	880.1	880.4	880.8	881.1	881.3	881.5	881.6	881.8	882.9
162.5°	893.5	893.6	893.7	893.7	893.8	893.9	894.1	894.3	894.5	894.6	895.9
165°	912.3	912.1	912.0	911.7	911.6	911.5	911.5	911.5	911.5	911.5	912.8
167.5°	928.0	927.5	926.9	926.4	925.9	925.6	925.6	925.5	925.5	925.4	926.7
170°	936.4	935.8	935.3	934.8	934.2	933.9	933.7	933.5	933.3	933.2	934.4
172.5°	942.1	941.6	941.0	940.6	940.0	939.6	939.4	939.3	939.1	938.9	940.2
175°	949.2	948.6	948.2	947.6	947.1	946.6	946.3	945.9	945.5	945.2	946.4
177.5°	952.1	951.6	951.3	950.8	950.4	950.0	949.7	949.4	949.2	948.9	949.7
180°	950.8	950.8	950.8	950.8	950.8	950.8	950.8	950.8	950.8	950.8	950.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	837.7	837.7	837.7	837.7	837.7	837.7	837.7	837.7
2.5°	835.0	836.1	837.2	837.5	837.0	836.6	836.1	835.8
5°	832.4	834.1	835.7	836.3	836.1	835.8	835.5	835.3
7.5°	828.5	830.4	832.3	833.2	832.9	832.7	832.3	832.1
10°	825.0	827.2	829.3	830.3	830.0	829.7	829.5	829.2
12.5°	819.2	821.3	823.5	824.4	824.2	823.9	823.6	823.4
15°	808.6	811.0	813.4	814.5	814.2	814.0	813.7	813.4
17.5°	795.0	797.5	800.0	801.3	801.3	801.3	801.3	801.3
20°	784.1	787.1	790.0	791.5	791.5	791.5	791.5	791.5
22.5°	772.5	775.5	778.4	780.1	780.5	781.0	781.4	781.9
25°	754.3	757.6	760.8	762.8	763.7	764.5	765.2	766.0
27.5°	734.2	738.3	742.4	744.7	745.4	745.9	746.6	747.1
30°	720.1	724.4	728.7	731.3	732.1	732.8	733.7	734.5
32.5°	704.9	709.8	714.8	718.0	719.5	720.9	722.4	723.8
35°	683.3	689.2	695.1	699.0	700.9	702.8	704.7	706.5
37.5°	661.0	667.6	674.1	678.4	680.4	682.5	684.4	686.4
40°	645.3	652.4	659.3	664.1	666.5	668.9	671.4	673.8
42.5°	630.1	637.8	645.5	650.5	652.9	655.4	657.7	660.2
45°	606.7	615.1	623.4	629.0	631.7	634.4	637.1	639.8
47.5°	582.5	591.2	600.0	605.9	608.8	611.8	614.7	617.7
50°	565.9	575.0	584.2	590.3	593.3	596.2	599.2	602.1
52.5°	547.9	557.2	566.6	572.9	576.1	579.3	582.5	585.7
55°	520.9	530.5	540.3	546.8	550.3	553.9	557.4	560.9
57.5°	492.3	502.7	513.2	520.1	523.7	527.3	530.8	534.4
60°	473.3	483.6	493.8	500.9	504.6	508.4	512.2	515.9
62.5°	453.3	464.1	475.1	482.3	485.8	489.4	493.0	496.5
65°	422.8	433.8	444.9	452.2	455.7	459.1	462.7	466.2
67.5°	391.9	403.1	414.2	421.7	425.3	429.0	432.7	436.3
70°	370.4	382.0	393.6	401.0	404.3	407.5	410.7	414.0
72.5°	349.6	361.0	372.3	380.0	383.9	387.8	391.7	395.5
75°	318.2	329.8	341.4	349.0	352.4	356.0	359.5	363.0
77.5°	287.5	299.0	310.6	318.3	322.0	325.8	329.6	333.4
80°	266.6	278.1	289.4	296.9	300.7	304.4	308.2	312.0
82.5°	247.2	258.6	269.9	277.3	280.9	284.5	288.0	291.6
85°	219.4	230.7	242.0	249.5	253.3	257.1	260.9	264.7
87.5°	201.4	212.3	223.2	230.4	233.9	237.4	240.9	244.4
90°	209.2	219.7	230.0	237.0	240.4	243.8	247.2	250.6
92.5°	198.3	209.0	219.6	226.6	229.8	233.1	236.4	239.6
95°	211.4	221.7	232.0	238.5	241.5	244.3	247.2	250.1
97.5°	235.4	245.4	255.4	262.0	265.1	268.3	271.5	274.6
100°	252.1	262.1	272.0	278.5	281.2	284.0	286.8	289.6
102.5°	271.5	281.4	291.3	297.6	300.4	303.2	306.0	308.8
105°	300.6	310.3	320.1	326.5	329.5	332.5	335.4	338.3
107.5°	332.9	342.1	351.3	357.0	359.1	361.2	363.4	365.6
110°	355.5	364.1	372.7	378.2	380.6	383.1	385.6	387.9





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	378.0	386.1	394.3	399.7	402.3	404.9	407.5	410.0
115°	412.8	420.7	428.6	433.8	436.3	438.7	441.2	443.5
117.5°	446.2	453.7	461.2	466.1	468.3	470.6	472.8	475.0
120°	468.6	476.1	483.6	488.6	491.1	493.5	495.9	498.4
122.5°	492.3	499.2	506.0	510.6	512.7	514.8	517.0	519.1
125°	526.6	533.3	540.0	544.5	546.8	549.1	551.3	553.6
127.5°	559.8	565.8	571.9	575.8	577.6	579.4	581.2	583.0
130°	583.0	589.1	595.2	599.0	600.4	601.8	603.3	604.8
132.5°	605.4	610.9	616.3	619.8	621.5	623.1	624.6	626.2
135°	639.0	644.4	649.9	653.5	655.1	656.7	658.3	660.0
137.5°	671.0	675.8	680.6	683.7	684.8	685.9	687.0	688.1
140°	693.1	697.4	701.7	704.3	705.2	706.2	707.0	708.0
142.5°	714.1	717.6	721.3	723.4	724.1	724.8	725.5	726.2
145°	747.4	749.2	751.0	752.2	752.8	753.4	754.1	754.7
147.5°	777.4	778.0	778.6	779.0	778.9	778.9	778.9	778.8
150°	797.8	798.4	798.9	798.9	798.4	797.8	797.3	796.8
152.5°	818.6	819.4	820.0	820.0	819.4	818.6	817.9	817.3
155°	845.1	846.0	846.8	847.0	846.5	846.0	845.4	844.9
157.5°	869.5	870.7	871.9	872.0	871.2	870.4	869.5	868.6
160°	883.9	885.0	886.1	886.3	885.6	884.9	884.2	883.4
162.5°	897.1	898.3	899.5	899.7	898.8	897.9	897.1	896.3
165°	914.0	915.2	916.5	916.6	915.8	914.9	914.0	913.1
167.5°	928.0	929.2	930.4	930.6	929.7	928.8	927.8	926.9
170°	935.6	936.9	938.2	938.3	937.2	936.1	935.0	934.0
172.5°	941.4	942.7	943.9	944.0	942.9	941.9	940.8	939.8
175°	947.7	949.0	950.1	950.3	949.2	948.2	947.1	946.0
177.5°	950.6	951.4	952.3	952.3	951.4	950.6	949.7	948.9
180°	950.8	950.8	950.8	950.8	950.8	950.8	950.8	950.8

(END OF REPORT)