

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: P331352-840

Luminaire Tested: **SA2XXDIP-C675D725U840-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

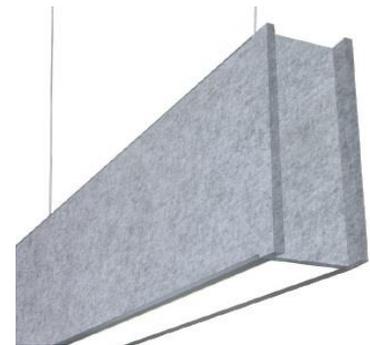
**Test Information**

Test Method: LM-79-08  
Report Number: P331352-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-C675D725U840-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 725 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5333.0 lumens  
Efficiency: N/A  
Efficacy: 116.2 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

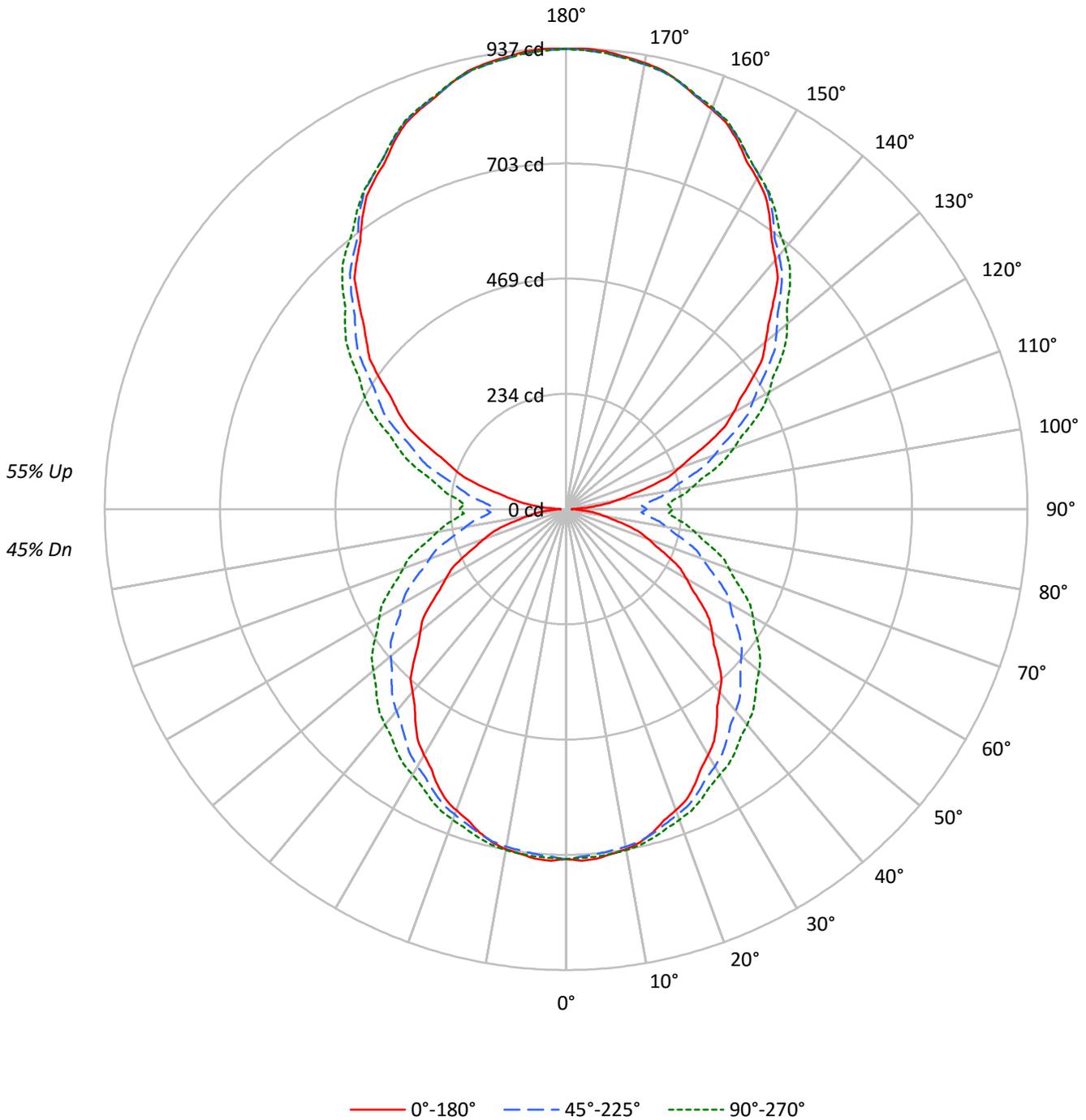
Input Watts (W): 45.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331352-840

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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	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	45
1	95	90	86	82	87	83	79	76	69	66	63	56	54	52	44	42	41	35
2	86	78	72	66	79	72	66	61	59	55	51	48	45	42	38	35	33	28
3	78	68	60	54	71	63	56	50	52	47	43	42	38	35	33	30	28	24
4	71	60	52	45	65	55	48	42	46	40	36	37	33	30	29	26	24	20
5	65	53	45	39	59	49	42	36	41	35	31	33	29	25	26	23	20	17
6	60	48	39	33	55	44	36	31	37	31	26	30	25	22	24	20	18	15
7	56	43	35	29	51	40	32	27	33	27	23	27	23	19	21	18	16	13
8	51	39	31	25	47	36	29	24	30	24	20	25	20	17	20	16	14	11
9	48	35	28	23	44	33	26	21	28	22	18	23	18	15	18	15	13	10
10	45	32	25	20	41	30	23	19	25	20	16	21	17	14	17	14	11	9

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

	0°	45°	90°
0°	11485	11485	11485
5°	11541	11055	11013
10°	11469	10729	10608
15°	11310	10384	10181
20°	11112	10013	9772
25°	10913	9655	9399
30°	10635	9288	9023
35°	10355	8933	8760
40°	10057	8630	8496
45°	9777	8361	8270
50°	9476	8116	8048
55°	9160	7855	7822
60°	8770	7583	7583
65°	8367	7262	7299
70°	7917	6920	6990
75°	7339	6581	6708
80°	6436	6238	6424
85°	5566	5939	6199



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	67.4	1.3
10°-20°	193.3	3.6
20°-30°	292.9	5.5
30°-40°	356.7	6.7
40°-50°	383.8	7.2
50°-60°	372.7	7.0
60°-70°	325.4	6.1
70°-80°	250.5	4.7
80°-90°	171.9	3.2
90°-100°	175.1	3.3
100°-110°	268.7	5.0
110°-120°	370.5	6.9
120°-130°	445.0	8.3
130°-140°	477.5	9.0
140°-150°	457.7	8.6
150°-160°	382.0	7.2
160°-170°	253.3	4.8
170°-180°	88.5	1.7
0°-30°	553.6	10.4
0°-40°	910.3	17.1
0°-60°	1666.8	31.3
0°-90°	2414.7	45.3
90°-120°	814.3	15.3
90°-150°	2194.5	41.1
90°-180°	2918.0	54.7
0°-180°	5333.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	711	711	711	711	711	
5°	713	710	704	710	709	68
15°	680	682	682	691	691	192
25°	618	626	635	647	651	284
35°	533	551	570	592	600	333
45°	437	465	501	532	543	337
55°	335	373	426	462	476	299
65°	229	280	340	381	396	227
75°	127	185	250	293	308	134
85°	37	101	167	209	225	40
90°	11	81	164	202	216	9
95°	49	106	169	207	219	54
105°	175	208	262	298	311	185
115°	320	338	381	410	420	316
125°	462	470	499	524	533	413
135°	595	604	616	636	643	460
145°	721	727	732	738	741	451
155°	825	827	830	833	831	380
165°	898	897	897	902	898	253
175°	934	932	930	935	931	89
180°	935	935	935	935	935	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3
2.5°	715.5	714.9	714.4	713.8	713.3	712.4	711.0	709.7	708.5	707.2	708.1
5°	713.4	712.7	712.1	711.3	710.6	709.6	708.2	706.9	705.5	704.1	705.5
7.5°	707.0	706.5	706.1	705.6	705.2	704.4	703.4	702.3	701.3	700.2	701.9
10°	702.1	701.6	701.1	700.6	700.2	699.6	698.9	698.3	697.6	696.9	698.7
12.5°	693.8	693.9	694.0	694.1	694.2	694.0	693.5	693.0	692.5	692.0	693.8
15°	680.4	680.9	681.4	681.8	682.3	682.5	682.5	682.5	682.5	682.5	684.5
17.5°	663.1	664.1	665.0	666.0	666.9	667.8	668.5	669.2	669.9	670.8	672.9
20°	651.6	652.7	653.8	655.0	656.1	657.1	658.0	659.0	659.9	660.9	663.4
22.5°	639.1	640.5	641.9	643.2	644.5	645.8	647.1	648.3	649.6	651.0	653.5
25°	618.5	620.2	621.8	623.4	625.0	626.8	628.8	631.0	633.0	635.0	637.8
27.5°	593.8	596.4	599.1	601.7	604.3	606.8	609.3	611.7	614.1	616.5	620.0
30°	577.3	580.3	583.3	586.2	589.3	592.2	595.2	598.1	601.2	604.1	607.7
32.5°	559.2	562.5	565.8	569.2	572.6	576.0	579.6	583.0	586.5	590.1	594.3
35°	533.0	536.8	540.8	544.6	548.6	552.7	557.0	561.4	565.7	570.1	575.1
37.5°	504.5	509.1	513.5	518.0	522.5	527.6	533.2	538.9	544.4	550.1	555.7
40°	485.5	490.6	495.6	500.7	505.7	511.3	517.6	523.7	529.9	536.0	542.0
42.5°	467.5	472.4	477.5	482.5	487.6	493.6	500.8	507.9	514.9	522.1	528.6
45°	437.1	443.3	449.5	455.7	461.8	469.0	477.0	485.0	493.0	501.0	508.2
47.5°	407.2	413.9	420.7	427.4	434.1	442.2	451.6	461.0	470.4	479.8	487.3
50°	386.6	393.7	400.8	407.9	415.0	423.7	434.0	444.3	454.6	464.9	472.7
52.5°	366.8	374.3	381.7	389.2	396.7	405.9	416.7	427.6	438.4	449.3	457.3
55°	335.1	343.3	351.5	359.8	368.0	378.1	390.0	401.9	413.8	425.8	434.0
57.5°	303.7	313.1	322.3	331.6	340.9	351.6	363.8	375.9	388.1	400.2	409.1
60°	281.4	291.2	301.1	311.0	320.8	332.3	345.4	358.4	371.4	384.6	393.2
62.5°	261.7	271.9	282.1	292.3	302.6	314.2	327.2	340.2	353.4	366.4	375.7
65°	228.8	240.0	251.4	262.6	273.8	286.1	299.6	313.2	326.7	340.2	349.6
67.5°	198.7	210.5	222.3	234.0	245.7	258.4	272.3	286.1	299.9	313.8	323.3
70°	177.3	189.2	201.2	213.1	225.0	238.0	252.3	266.4	280.6	294.9	304.7
72.5°	157.5	169.8	182.1	194.4	206.6	219.9	234.4	248.7	263.2	277.5	287.2
75°	126.8	139.7	152.5	165.3	178.1	191.9	206.5	221.2	235.8	250.5	260.3
77.5°	97.1	110.6	124.0	137.3	150.8	165.0	179.9	194.8	209.6	224.5	234.4
80°	77.4	91.3	105.2	119.3	133.2	147.6	162.6	177.4	192.3	207.2	216.8
82.5°	60.8	74.6	88.4	102.2	116.0	130.4	145.5	160.6	175.6	190.8	200.4
85°	37.2	51.3	65.5	79.7	93.9	108.4	123.0	137.6	152.4	167.0	176.6
87.5°	20.4	34.4	48.5	62.6	76.6	91.4	106.8	122.3	137.7	153.2	162.4
90°	11.1	26.5	41.9	57.3	72.7	89.6	108.2	126.6	145.2	163.7	172.5
92.5°	23.5	37.5	51.4	65.2	79.2	93.6	108.7	123.7	138.8	153.8	162.8
95°	49.3	61.8	74.3	86.8	99.4	112.7	126.7	140.9	155.0	169.1	177.7
97.5°	82.2	93.3	104.4	115.5	126.6	139.2	153.0	166.9	180.8	194.6	203.1
100°	107.4	117.3	127.2	137.1	146.9	158.6	172.0	185.3	198.6	212.1	220.5
102.5°	133.2	142.0	150.9	159.8	168.6	179.7	192.8	205.9	219.0	232.2	240.5
105°	174.9	182.1	189.2	196.4	203.6	213.3	225.5	237.8	250.0	262.4	270.6
107.5°	217.9	224.0	230.0	236.2	242.3	251.1	262.5	273.9	285.3	296.6	304.5
110°	244.9	250.5	256.1	261.8	267.4	275.8	287.1	298.3	309.5	320.7	328.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	275.2	280.1	285.0	289.9	294.8	302.6	313.1	323.6	334.2	344.7	351.5
115°	319.8	323.5	327.0	330.6	334.2	340.9	350.9	360.8	370.8	380.7	387.5
117.5°	363.3	366.4	369.4	372.5	375.6	381.3	389.9	398.5	407.0	415.6	421.9
120°	393.0	395.4	397.7	400.0	402.3	407.4	415.2	422.8	430.6	438.4	444.8
122.5°	420.2	422.2	424.2	426.4	428.4	433.2	440.9	448.5	456.2	463.7	469.6
125°	461.5	463.0	464.6	466.2	467.8	472.0	478.8	485.5	492.4	499.2	504.8
127.5°	502.7	504.4	506.2	508.0	509.8	513.3	518.6	523.8	529.1	534.4	539.5
130°	528.6	530.6	532.7	534.7	536.7	540.0	544.5	549.0	553.4	557.8	563.0
132.5°	557.6	559.3	560.9	562.5	564.1	566.8	570.6	574.4	578.1	582.0	586.5
135°	595.4	597.3	599.3	601.2	603.1	605.4	608.0	610.7	613.4	616.0	620.7
137.5°	636.3	637.8	639.3	640.9	642.5	643.9	645.4	646.8	648.3	649.7	653.9
140°	661.0	662.3	663.6	665.0	666.3	667.6	669.0	670.3	671.7	673.0	676.7
142.5°	686.2	687.5	688.9	690.2	691.6	692.6	693.3	694.0	694.7	695.4	698.4
145°	721.4	722.7	724.0	725.2	726.4	727.5	728.6	729.6	730.6	731.7	733.3
147.5°	753.9	755.3	756.8	758.2	759.7	760.8	761.5	762.2	763.0	763.7	764.2
150°	776.0	777.0	778.0	779.1	780.1	781.0	781.7	782.4	783.2	783.9	784.4
152.5°	795.5	796.6	797.6	798.7	799.7	800.6	801.5	802.3	803.1	804.1	804.7
155°	824.9	825.4	826.0	826.5	827.0	827.5	828.0	828.6	829.1	829.6	830.5
157.5°	850.0	850.3	850.7	851.0	851.4	851.7	852.0	852.3	852.6	852.9	854.1
160°	865.2	865.5	865.9	866.2	866.6	866.8	867.0	867.2	867.4	867.5	868.6
162.5°	879.0	879.1	879.2	879.2	879.3	879.4	879.6	879.8	880.0	880.1	881.3
165°	897.5	897.4	897.2	897.0	896.8	896.7	896.7	896.7	896.7	896.7	898.0
167.5°	912.9	912.4	911.9	911.4	910.9	910.6	910.6	910.5	910.5	910.4	911.7
170°	921.2	920.7	920.1	919.6	919.1	918.7	918.6	918.4	918.2	918.0	919.3
172.5°	926.9	926.3	925.8	925.2	924.7	924.4	924.2	924.0	923.9	923.7	924.9
175°	933.8	933.3	932.7	932.2	931.7	931.3	930.9	930.6	930.2	929.9	931.1
177.5°	936.6	936.2	935.8	935.3	934.9	934.6	934.3	934.0	933.7	933.5	934.3
180°	935.3	935.3	935.3	935.3	935.3	935.3	935.3	935.3	935.3	935.3	935.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3
2.5°	709.0	709.9	710.8	711.1	710.7	710.4	710.0	709.7
5°	706.9	708.2	709.6	710.2	709.9	709.7	709.5	709.2
7.5°	703.5	705.2	706.8	707.5	707.3	707.0	706.8	706.6
10°	700.5	702.4	704.3	705.0	704.8	704.6	704.4	704.1
12.5°	695.6	697.4	699.3	700.0	699.8	699.6	699.4	699.1
15°	686.6	688.6	690.7	691.7	691.5	691.2	690.9	690.7
17.5°	675.0	677.2	679.3	680.4	680.4	680.4	680.4	680.4
20°	665.9	668.4	670.9	672.2	672.2	672.2	672.2	672.2
22.5°	656.0	658.5	661.0	662.5	662.8	663.2	663.6	663.9
25°	640.6	643.3	646.0	647.7	648.4	649.1	649.8	650.6
27.5°	623.5	626.9	630.5	632.4	632.9	633.4	633.9	634.4
30°	611.5	615.1	618.7	621.0	621.7	622.4	623.0	623.7
32.5°	598.5	602.8	606.9	609.7	611.0	612.2	613.4	614.6
35°	580.2	585.2	590.3	593.6	595.2	596.8	598.3	600.0
37.5°	561.3	566.8	572.5	576.1	577.8	579.5	581.2	582.9
40°	548.0	553.9	559.9	563.9	565.9	568.0	570.1	572.2
42.5°	535.0	541.6	548.1	552.4	554.4	556.5	558.6	560.6
45°	515.2	522.3	529.5	534.1	536.4	538.8	541.0	543.3
47.5°	494.6	502.1	509.5	514.4	516.9	519.5	522.0	524.5
50°	480.5	488.3	496.1	501.3	503.8	506.3	508.8	511.3
52.5°	465.2	473.2	481.2	486.6	489.2	491.9	494.6	497.4
55°	442.2	450.5	458.8	464.3	467.4	470.3	473.3	476.3
57.5°	418.0	426.9	435.8	441.7	444.7	447.8	450.8	453.8
60°	401.9	410.6	419.4	425.4	428.5	431.7	434.9	438.2
62.5°	384.9	394.2	403.4	409.6	412.5	415.6	418.6	421.6
65°	359.0	368.4	377.8	384.0	387.0	389.9	392.9	395.9
67.5°	332.8	342.2	351.7	358.1	361.1	364.3	367.4	370.5
70°	314.6	324.4	334.3	340.5	343.3	346.1	348.8	351.5
72.5°	296.9	306.5	316.2	322.7	326.0	329.3	332.5	335.9
75°	270.2	280.0	289.9	296.3	299.3	302.3	305.3	308.2
77.5°	244.2	254.0	263.8	270.2	273.5	276.7	279.8	283.1
80°	226.4	236.1	245.7	252.2	255.3	258.5	261.8	265.0
82.5°	210.0	219.5	229.2	235.5	238.5	241.6	244.6	247.6
85°	186.2	195.9	205.5	211.9	215.1	218.3	221.6	224.7
87.5°	171.7	181.0	190.3	196.4	199.3	202.3	205.3	208.2
90°	181.4	190.2	198.9	204.8	207.7	210.7	213.6	216.5
92.5°	171.9	180.9	190.0	195.9	198.6	201.5	204.2	207.0
95°	186.5	195.2	203.9	209.4	211.9	214.3	216.6	219.0
97.5°	211.6	220.0	228.5	234.1	236.8	239.4	242.1	244.8
100°	228.9	237.4	245.9	251.4	253.7	256.0	258.3	260.7
102.5°	249.0	257.4	265.9	271.2	273.6	276.0	278.3	280.6
105°	279.0	287.4	295.8	301.2	303.8	306.3	308.8	311.3
107.5°	312.4	320.1	328.0	332.8	334.5	336.2	337.9	339.6
110°	335.4	342.7	350.1	354.8	356.7	358.7	360.7	362.7





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	358.5	365.4	372.3	376.8	378.9	381.1	383.2	385.4
115°	394.2	400.8	407.6	411.9	413.8	415.9	417.9	419.9
117.5°	428.3	434.6	441.0	445.0	446.9	448.7	450.5	452.3
120°	451.2	457.7	464.0	468.3	470.3	472.2	474.2	476.3
122.5°	475.3	481.2	487.0	490.8	492.5	494.3	496.0	497.9
125°	510.5	516.1	521.8	525.6	527.5	529.4	531.3	533.1
127.5°	544.5	549.6	554.6	557.8	559.3	560.8	562.2	563.7
130°	568.2	573.3	578.5	581.6	582.7	583.8	585.0	586.1
132.5°	591.1	595.6	600.2	603.1	604.3	605.6	606.8	608.1
135°	625.2	629.9	634.5	637.5	638.8	640.2	641.5	642.7
137.5°	657.9	662.0	666.1	668.5	669.4	670.2	671.2	672.0
140°	680.3	684.0	687.7	689.8	690.5	691.2	691.9	692.6
142.5°	701.6	704.6	707.6	709.4	709.9	710.4	710.9	711.3
145°	734.9	736.4	737.9	738.9	739.3	739.8	740.2	740.7
147.5°	764.8	765.4	765.9	766.1	766.0	765.9	765.8	765.7
150°	784.9	785.4	786.0	786.0	785.4	784.9	784.4	783.9
152.5°	805.4	806.1	806.7	806.7	806.1	805.4	804.7	804.1
155°	831.3	832.2	833.1	833.3	832.7	832.2	831.7	831.2
157.5°	855.4	856.6	857.8	857.9	857.1	856.3	855.4	854.5
160°	869.6	870.7	871.7	871.9	871.2	870.5	869.8	869.1
162.5°	882.5	883.7	884.9	885.0	884.2	883.4	882.5	881.7
165°	899.2	900.4	901.6	901.8	900.9	900.0	899.2	898.3
167.5°	912.9	914.1	915.3	915.5	914.6	913.7	912.8	911.9
170°	920.5	921.7	922.9	923.0	922.0	920.9	919.9	918.8
172.5°	926.1	927.4	928.6	928.7	927.7	926.6	925.5	924.5
175°	932.3	933.5	934.7	934.8	933.8	932.7	931.7	930.7
177.5°	935.1	936.0	936.9	936.9	936.0	935.1	934.3	933.5
180°	935.3	935.3	935.3	935.3	935.3	935.3	935.3	935.3

(END OF REPORT)