

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: P331935-840

Luminaire Tested: **S123DIP-S560D805U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

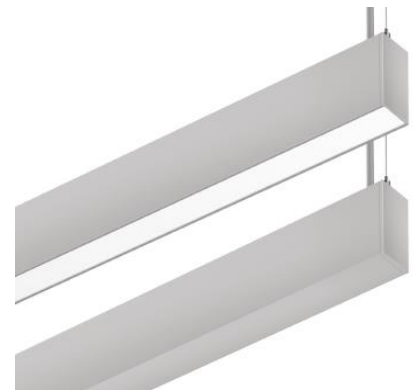
Test Information

Test Method: LM-79-08
Report Number: P331935-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S560D805U840-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 805 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5128.8 lumens
Efficiency: N/A
Efficacy: 133.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

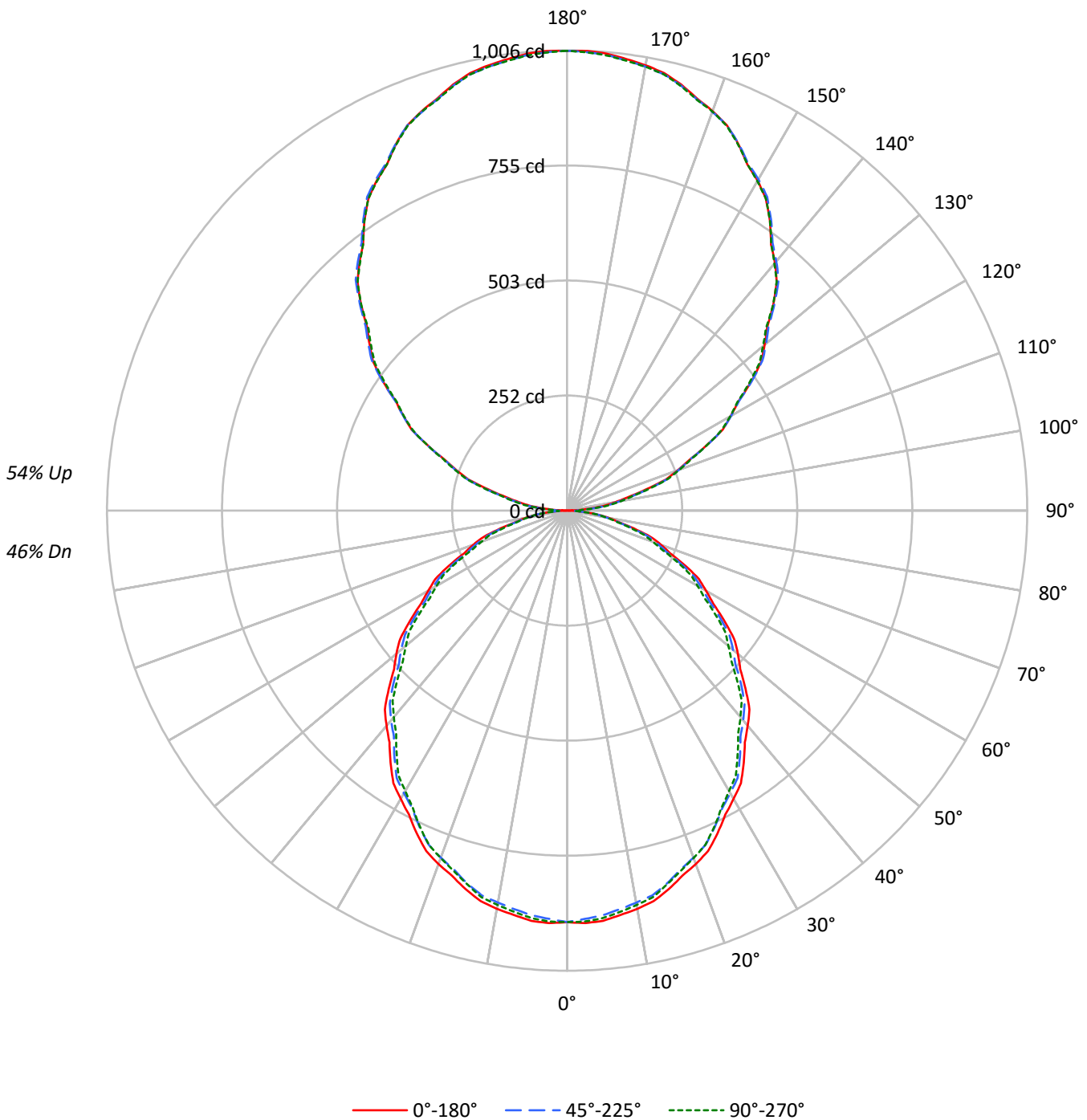
Input Watts (W): 38.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	46
1	97	92	89	85	89	85	82	79	71	68	66	58	56	55	46	45	44	38
2	88	81	75	69	81	74	69	64	62	58	55	51	48	46	40	39	37	32
3	80	71	64	58	73	65	59	54	55	50	46	45	41	39	36	33	31	27
4	73	63	55	49	67	58	51	46	49	43	39	40	36	33	32	29	27	23
5	67	56	48	42	62	52	44	39	43	38	34	36	32	29	29	26	24	20
6	62	50	42	36	57	46	39	34	39	34	29	32	28	25	26	23	21	18
7	57	45	37	32	52	42	35	30	35	30	26	29	25	22	24	21	18	16
8	53	41	33	28	49	38	31	26	32	27	23	27	23	20	22	19	16	14
9	49	37	30	25	45	35	28	23	30	24	21	25	21	18	20	17	15	13
10	46	34	27	22	42	32	25	21	27	22	18	23	19	16	19	16	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9684	9684	9684
5°	9729	9596	9662
10°	9664	9512	9571
15°	9551	9404	9423
20°	9419	9251	9260
25°	9242	9069	9049
30°	9047	8866	8797
35°	8843	8650	8539
40°	8630	8413	8283
45°	8397	8196	7995
50°	8162	7927	7708
55°	7854	7651	7418
60°	7543	7326	7093
65°	7272	6976	6757
70°	6864	6571	6279
75°	6276	6047	5793
80°	5659	5424	5368
85°	4965	4780	4594



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.7	1.7
10°-20°	239.3	4.7
20°-30°	353.5	6.9
30°-40°	412.9	8.1
40°-50°	415.1	8.1
50°-60°	364.6	7.1
60°-70°	271.7	5.3
70°-80°	154.8	3.0
80°-90°	47.4	0.9
90°-100°	65.5	1.3
100°-110°	196.0	3.8
110°-120°	333.3	6.5
120°-130°	438.5	8.5
130°-140°	492.8	9.6
140°-150°	484.4	9.4
150°-160°	407.8	8.0
160°-170°	271.5	5.3
170°-180°	95.1	1.9
0°-30°	677.5	13.2
0°-40°	1090.4	21.3
0°-60°	1870.2	36.5
0°-90°	2344.0	45.7
90°-120°	594.8	11.6
90°-150°	2010.5	39.2
90°-180°	2785.0	54.3
0°-180°	5128.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	900	900	900	900	900	
5°	900	896	888	895	894	85
15°	857	854	844	850	846	242
25°	778	773	764	764	762	358
35°	673	668	658	654	650	421
45°	552	548	538	529	525	426
55°	418	417	408	399	395	375
65°	286	281	274	268	265	282
75°	151	148	145	142	139	161
85°	40	39	39	37	37	44
90°	1	9	19	22	24	5
95°	47	52	58	61	62	52
105°	178	180	186	186	188	190
115°	336	338	336	337	336	332
125°	491	493	492	489	486	438
135°	637	642	641	638	636	491
145°	773	775	777	776	773	483
155°	885	885	886	889	884	407
165°	964	962	962	966	961	272
175°	1003	1000	1000	1004	999	95
180°	1005	1005	1005	1005	1005	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7
2.5°	902.7	902.2	901.7	901.1	900.6	899.5	898.0	896.5	895.0	893.5	894.8
5°	900.4	899.6	898.7	897.9	897.0	895.6	893.7	891.8	890.0	888.1	889.8
7.5°	891.6	890.8	889.9	889.1	888.2	886.8	884.8	882.8	880.9	879.0	880.5
10°	884.2	883.3	882.5	881.6	880.8	879.2	877.0	874.7	872.5	870.3	871.8
12.5°	874.3	873.5	872.8	872.1	871.4	870.0	867.9	865.8	863.7	861.6	862.7
15°	857.1	856.5	855.8	855.1	854.3	852.9	850.7	848.5	846.2	843.9	845.4
17.5°	837.2	836.3	835.4	834.5	833.5	832.0	829.8	827.6	825.4	823.0	824.0
20°	822.3	821.3	820.2	819.2	818.2	816.6	814.4	812.1	809.8	807.6	808.3
22.5°	805.6	804.6	803.5	802.5	801.4	799.8	797.6	795.4	793.1	790.9	791.4
25°	778.2	777.2	776.2	775.2	774.1	772.4	770.2	768.0	765.8	763.6	763.7
27.5°	749.0	748.0	747.0	746.0	745.0	743.3	740.8	738.5	736.1	733.7	733.8
30°	727.9	727.1	726.2	725.4	724.5	722.9	720.4	718.0	715.7	713.3	713.3
32.5°	706.9	705.8	704.6	703.5	702.4	700.8	699.0	697.1	695.3	693.5	692.5
35°	673.0	672.0	671.0	669.9	668.9	667.2	665.0	662.8	660.6	658.3	657.3
37.5°	638.3	637.0	635.7	634.4	633.1	631.4	629.0	626.8	624.5	622.3	621.1
40°	614.2	613.2	612.2	611.2	610.1	608.3	605.9	603.6	601.2	598.7	597.3
42.5°	590.1	589.0	587.7	586.5	585.4	583.6	581.2	578.9	576.4	574.0	572.6
45°	551.6	550.9	550.2	549.5	548.8	547.3	545.1	542.9	540.7	538.4	536.3
47.5°	513.3	512.3	511.4	510.4	509.4	507.8	505.7	503.6	501.5	499.4	497.4
50°	487.4	486.5	485.6	484.7	483.9	482.4	480.1	477.9	475.6	473.4	471.5
52.5°	460.1	459.5	459.0	458.4	457.8	456.3	453.9	451.6	449.2	446.9	445.2
55°	418.5	418.3	418.2	418.0	417.8	416.6	414.3	412.1	409.9	407.7	405.8
57.5°	378.9	378.3	377.7	377.2	376.6	375.4	373.5	371.8	370.0	368.2	366.6
60°	350.4	350.2	350.1	349.9	349.7	348.6	346.6	344.5	342.4	340.3	338.8
62.5°	325.1	324.6	324.2	323.8	323.3	322.0	319.9	317.9	315.8	313.8	312.3
65°	285.5	284.6	283.8	282.9	282.1	280.7	279.0	277.3	275.6	273.9	272.5
67.5°	243.5	242.8	242.0	241.3	240.4	239.4	238.1	236.8	235.5	234.3	233.1
70°	218.1	217.1	216.1	215.1	214.0	213.0	212.0	211.0	209.8	208.8	207.6
72.5°	191.6	190.8	190.1	189.2	188.5	187.5	186.4	185.2	184.0	182.9	181.8
75°	150.9	150.2	149.5	148.8	148.1	147.5	146.9	146.4	145.9	145.4	144.6
77.5°	114.8	114.4	114.0	113.7	113.3	112.8	112.2	111.6	110.9	110.3	109.8
80°	91.3	90.8	90.3	89.8	89.2	88.8	88.5	88.1	87.8	87.5	87.3
82.5°	68.4	68.3	68.2	68.1	68.0	67.9	67.9	67.8	67.7	67.7	67.3
85°	40.2	39.9	39.6	39.2	38.9	38.7	38.7	38.7	38.7	38.7	38.4
87.5°	16.3	16.2	16.2	16.1	16.0	16.2	16.5	16.8	17.1	17.4	17.4
90°	0.8	2.5	4.3	6.1	7.8	9.8	12.1	14.3	16.7	19.0	19.7
92.5°	19.1	20.3	21.5	22.7	23.8	25.1	26.5	27.8	29.0	30.3	30.9
95°	46.6	47.8	49.1	50.3	51.5	52.8	54.2	55.6	57.1	58.5	59.2
97.5°	82.7	83.6	84.5	85.4	86.4	87.4	88.4	89.4	90.4	91.4	92.2
100°	107.3	108.5	109.5	110.6	111.6	112.6	113.4	114.3	115.2	116.0	116.6
102.5°	135.8	136.4	137.0	137.7	138.4	139.3	140.4	141.6	142.7	143.9	144.4
105°	177.6	178.0	178.3	178.7	179.0	180.1	181.6	183.2	184.8	186.3	186.3
107.5°	226.3	226.5	226.7	226.9	227.1	227.5	228.2	228.8	229.4	230.0	230.7
110°	256.6	256.9	257.3	257.6	258.0	258.3	258.7	259.0	259.4	259.7	260.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	288.2	288.4	288.6	288.8	289.0	289.1	289.2	289.3	289.4	289.4	290.3
115°	335.6	336.1	336.6	337.1	337.7	337.8	337.4	337.1	336.7	336.4	336.5
117.5°	383.2	383.6	384.0	384.3	384.7	384.6	384.2	383.6	383.2	382.7	382.7
120°	412.9	413.9	415.1	416.1	417.2	417.3	416.4	415.5	414.7	413.7	413.5
122.5°	443.9	444.6	445.5	446.2	447.0	447.2	446.7	446.3	445.8	445.4	444.8
125°	491.1	491.6	492.1	492.7	493.2	493.3	492.9	492.6	492.2	491.9	491.2
127.5°	534.7	535.8	536.9	538.1	539.2	539.6	539.2	538.8	538.4	538.0	537.0
130°	563.7	565.1	566.5	567.9	569.4	569.8	569.3	568.8	568.3	567.6	566.9
132.5°	592.8	594.2	595.6	597.0	598.4	599.0	598.5	598.1	597.7	597.3	596.5
135°	637.1	638.2	639.2	640.4	641.4	641.9	641.7	641.5	641.3	641.2	640.5
137.5°	678.2	679.1	679.9	680.9	681.8	682.4	682.9	683.3	683.8	684.2	683.5
140°	706.6	707.5	708.4	709.3	710.1	710.6	710.8	711.0	711.2	711.3	711.2
142.5°	732.6	733.5	734.3	735.2	736.1	736.7	737.0	737.3	737.6	737.9	737.7
145°	773.0	773.4	773.7	774.1	774.4	774.8	775.4	775.9	776.4	776.9	776.8
147.5°	808.4	809.0	809.6	810.2	810.9	811.4	811.9	812.4	812.9	813.4	813.4
150°	832.9	833.3	833.6	834.0	834.4	834.8	835.1	835.5	835.8	836.2	836.2
152.5°	853.2	853.6	854.1	854.6	855.2	855.6	855.8	856.0	856.2	856.4	856.7
155°	885.0	885.0	885.0	885.0	885.0	885.1	885.3	885.6	885.8	885.9	886.6
157.5°	912.2	912.0	911.8	911.6	911.4	911.4	911.5	911.7	911.8	911.9	912.7
160°	929.3	929.0	928.6	928.3	927.9	927.8	927.8	927.8	927.8	927.8	928.6
162.5°	944.4	944.0	943.5	943.0	942.5	942.3	942.5	942.6	942.7	942.9	943.7
165°	964.0	963.5	963.0	962.5	961.9	961.7	961.7	961.7	961.7	961.7	962.7
167.5°	979.7	979.0	978.3	977.5	976.8	976.6	976.7	976.8	977.0	977.1	978.3
170°	988.6	987.8	987.1	986.4	985.7	985.3	985.3	985.3	985.3	985.3	986.6
172.5°	995.4	994.8	994.1	993.4	992.7	992.3	992.3	992.3	992.3	992.3	993.4
175°	1002.7	1002.0	1001.4	1000.7	1000.0	999.6	999.6	999.6	999.6	999.6	1000.7
177.5°	1005.7	1005.2	1004.6	1004.0	1003.5	1003.2	1003.2	1003.2	1003.2	1003.2	1004.0
180°	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7
2.5°	896.3	897.6	899.0	899.6	899.5	899.3	899.2	899.1
5°	891.5	893.2	894.9	895.6	895.2	894.9	894.6	894.2
7.5°	882.0	883.5	885.1	885.8	885.6	885.3	885.1	884.9
10°	873.3	874.9	876.5	877.1	876.8	876.4	876.1	875.7
12.5°	863.8	865.1	866.2	866.6	866.4	866.2	866.0	865.8
15°	846.8	848.1	849.5	849.6	848.6	847.6	846.6	845.6
17.5°	825.1	826.0	827.0	827.2	826.9	826.5	826.1	825.7
20°	809.0	809.7	810.3	810.4	809.9	809.4	808.9	808.4
22.5°	792.0	792.5	793.1	793.0	792.4	791.7	791.1	790.4
25°	763.9	764.1	764.2	764.1	763.6	763.1	762.4	761.9
27.5°	734.0	734.1	734.2	734.0	733.3	732.7	732.0	731.3
30°	713.3	713.3	713.3	712.7	711.4	710.2	709.0	707.8
32.5°	691.6	690.5	689.5	688.7	688.1	687.5	686.8	686.2
35°	656.2	655.2	654.2	653.3	652.4	651.6	650.7	649.8
37.5°	619.8	618.5	617.3	616.4	615.9	615.3	614.8	614.2
40°	596.0	594.6	593.3	592.2	591.5	590.9	590.2	589.5
42.5°	571.3	569.9	568.5	567.4	566.7	566.1	565.4	564.7
45°	534.3	532.2	530.2	528.7	527.9	526.9	526.1	525.2
47.5°	495.3	493.3	491.3	489.9	489.2	488.4	487.7	486.9
50°	469.7	467.8	465.9	464.4	463.3	462.3	461.3	460.3
52.5°	443.6	442.0	440.4	439.0	438.0	437.0	436.0	434.9
55°	403.8	402.0	400.1	398.7	397.9	397.0	396.2	395.3
57.5°	364.9	363.1	361.5	360.1	359.1	358.2	357.2	356.2
60°	337.3	335.8	334.2	333.0	332.1	331.2	330.4	329.5
62.5°	310.6	309.1	307.6	306.5	305.9	305.4	304.8	304.2
65°	271.0	269.7	268.3	267.4	266.9	266.4	265.9	265.3
67.5°	231.9	230.7	229.4	228.4	227.7	227.0	226.3	225.6
70°	206.4	205.3	204.1	203.0	202.2	201.3	200.5	199.5
72.5°	180.8	179.7	178.6	177.8	177.4	176.9	176.5	176.0
75°	143.7	142.9	142.0	141.3	140.8	140.3	139.8	139.3
77.5°	109.2	108.6	108.0	107.7	107.7	107.7	107.7	107.7
80°	87.1	86.8	86.7	86.6	86.6	86.6	86.6	86.6
82.5°	67.0	66.7	66.3	66.1	66.0	65.8	65.7	65.6
85°	38.0	37.7	37.3	37.2	37.2	37.2	37.2	37.2
87.5°	17.4	17.4	17.4	17.5	17.6	17.6	17.7	17.8
90°	20.4	21.0	21.7	22.3	22.6	23.0	23.3	23.7
92.5°	31.4	32.0	32.5	32.7	32.5	32.3	32.1	31.9
95°	59.8	60.5	61.2	61.6	61.6	61.6	61.6	61.6
97.5°	93.0	93.8	94.6	95.0	94.9	94.9	94.8	94.7
100°	117.1	117.6	118.2	118.7	119.0	119.3	119.7	120.0
102.5°	144.9	145.4	145.9	146.2	146.1	146.0	146.0	145.9
105°	186.3	186.3	186.3	186.5	186.8	187.2	187.5	187.9
107.5°	231.2	231.8	232.4	232.5	232.3	232.1	231.9	231.7
110°	261.2	261.9	262.6	262.8	262.4	262.1	261.7	261.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	291.1	292.0	292.9	293.2	293.2	293.1	293.0	293.0
115°	336.7	336.9	337.1	337.1	336.9	336.7	336.5	336.4
117.5°	382.7	382.6	382.6	382.3	381.9	381.4	380.9	380.4
120°	413.3	413.2	413.0	412.7	412.4	412.0	411.7	411.3
122.5°	444.4	443.9	443.5	443.0	442.5	442.0	441.5	441.0
125°	490.5	489.8	489.1	488.4	487.7	487.0	486.3	485.5
127.5°	536.0	535.0	534.1	533.2	532.4	531.6	530.8	530.0
130°	566.3	565.6	564.9	563.9	562.7	561.5	560.3	559.0
132.5°	595.7	594.8	594.0	593.1	592.2	591.2	590.3	589.4
135°	639.7	639.0	638.3	637.8	637.4	637.1	636.7	636.4
137.5°	682.8	682.1	681.3	680.5	679.9	679.2	678.6	677.9
140°	711.0	710.8	710.6	710.0	708.7	707.5	706.3	705.1
142.5°	737.6	737.4	737.2	736.7	735.7	734.8	733.8	732.9
145°	776.6	776.4	776.2	775.8	775.1	774.4	773.7	773.0
147.5°	813.4	813.4	813.4	812.8	811.8	810.7	809.7	808.7
150°	836.2	836.2	836.2	835.7	834.6	833.5	832.4	831.4
152.5°	856.9	857.2	857.5	857.2	856.3	855.4	854.4	853.5
155°	887.3	888.0	888.7	888.4	887.2	886.0	884.7	883.5
157.5°	913.4	914.1	914.8	914.7	913.8	912.8	911.8	910.8
160°	929.5	930.4	931.2	931.3	930.6	929.9	929.2	928.5
162.5°	944.6	945.5	946.4	946.2	945.1	944.0	942.9	941.8
165°	963.8	964.8	965.9	965.8	964.6	963.3	962.1	960.9
167.5°	979.4	980.4	981.5	981.5	980.4	979.4	978.3	977.1
170°	987.8	989.1	990.3	990.3	989.1	987.8	986.6	985.3
172.5°	994.5	995.6	996.6	996.6	995.3	994.1	992.9	991.7
175°	1001.7	1002.7	1003.8	1003.7	1002.5	1001.3	1000.0	998.8
177.5°	1004.9	1005.7	1006.5	1006.5	1005.5	1004.5	1003.6	1002.6
180°	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1	1005.1

(END OF REPORT)