

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: P332524-840

Luminaire Tested: **S124DIP-S350D1035U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332524-840
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: S124DIP-S350D1035U840-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1035 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5150.7 lumens
Efficiency: N/A
Efficacy: 138.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

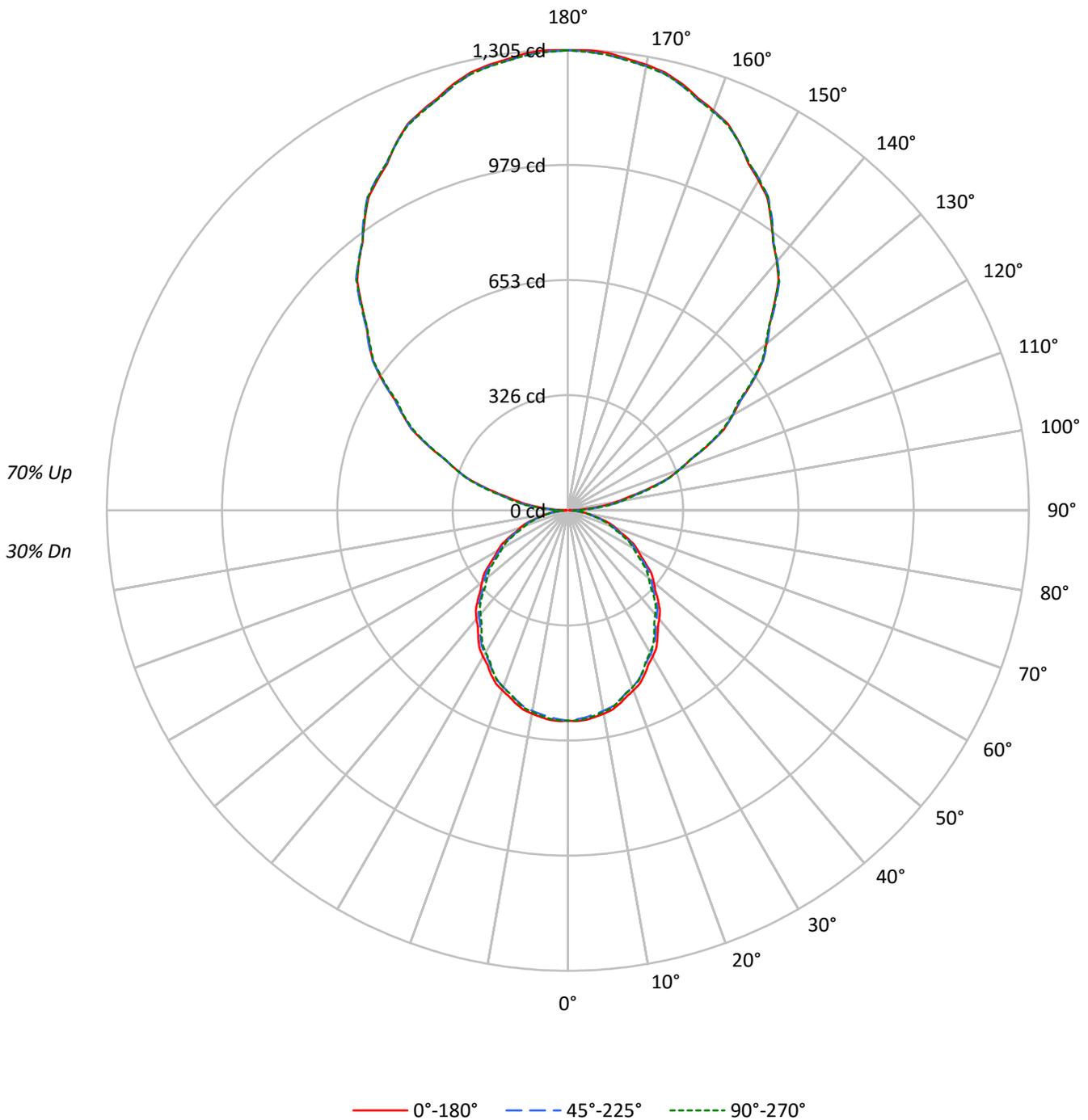
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	102	102	102	102	92	92	92	92	72	72	72	54	54	54	38	38	38	30
1	93	89	85	82	83	80	77	74	63	61	59	47	46	45	33	32	32	25
2	85	78	72	67	76	70	65	61	55	52	49	42	39	37	29	28	27	21
3	77	68	61	55	69	61	55	51	49	44	41	37	34	32	26	24	23	18
4	71	60	53	47	63	54	48	43	43	38	35	33	30	27	23	21	19	15
5	65	54	46	40	58	48	42	37	38	34	30	29	26	23	21	19	17	13
6	60	48	40	34	53	43	36	32	35	30	26	26	23	20	19	17	15	12
7	55	43	35	30	49	39	32	28	31	26	23	24	20	18	17	15	13	10
8	51	39	32	26	46	35	29	24	28	24	20	22	18	16	16	13	12	9
9	47	35	28	23	42	32	26	21	26	21	18	20	17	14	14	12	11	8
10	44	32	25	21	40	29	23	19	24	19	16	18	15	13	13	11	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4816	4816	4816
5°	4830	4772	4807
10°	4800	4733	4757
15°	4741	4667	4679
20°	4665	4582	4587
25°	4577	4488	4475
30°	4470	4376	4336
35°	4357	4258	4202
40°	4241	4126	4051
45°	4120	3995	3919
50°	3986	3878	3758
55°	3842	3727	3606
60°	3696	3559	3450
65°	3534	3396	3261
70°	3352	3182	3059
75°	3072	2923	2848
80°	2734	2627	2552
85°	2399	2297	2251



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	56.2	1.1
10°-20°	158.3	3.1
20°-30°	233.0	4.5
30°-40°	270.8	5.3
40°-50°	270.9	5.3
50°-60°	236.9	4.6
60°-70°	175.9	3.4
70°-80°	100.0	1.9
80°-90°	32.7	0.6
90°-100°	86.0	1.7
100°-110°	254.7	4.9
110°-120°	432.2	8.4
120°-130°	569.9	11.1
130°-140°	640.1	12.4
140°-150°	629.0	12.2
150°-160°	529.0	10.3
160°-170°	352.0	6.8
170°-180°	123.2	2.4
0°-30°	447.4	8.7
0°-40°	718.3	13.9
0°-60°	1226.1	23.8
0°-90°	1534.7	29.8
90°-120°	772.9	15.0
90°-150°	2611.8	50.7
90°-180°	3616.0	70.2
0°-180°	5150.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	596	596	596	596	596	
5°	596	594	589	594	593	57
15°	567	565	558	561	560	160
25°	514	510	504	504	502	236
35°	442	439	432	429	426	276
45°	361	357	350	345	343	278
55°	273	271	265	259	256	244
65°	185	182	178	173	171	183
75°	98	96	94	92	91	105
85°	26	26	25	25	24	28
90°	3	14	22	28	30	5
95°	60	69	77	80	80	67
105°	235	236	240	243	246	249
115°	440	439	438	436	436	433
125°	640	640	639	637	635	570
135°	826	831	832	830	827	638
145°	1003	1007	1008	1007	1004	627
155°	1149	1149	1148	1152	1148	528
165°	1251	1248	1246	1251	1248	352
175°	1301	1297	1295	1302	1295	123
180°	1303	1303	1303	1303	1303	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5
2.5°	598.0	597.8	597.5	597.3	597.0	596.4	595.5	594.6	593.7	592.7	593.6
5°	596.0	595.6	595.2	594.8	594.4	593.6	592.4	591.3	590.1	588.9	590.1
7.5°	590.6	590.1	589.7	589.3	588.9	587.9	586.6	585.4	584.1	582.8	583.7
10°	585.5	585.1	584.7	584.3	583.9	583.0	581.6	580.2	578.9	577.4	578.2
12.5°	579.1	578.7	578.2	577.7	577.3	576.4	574.9	573.5	572.0	570.6	571.5
15°	567.3	566.9	566.5	566.1	565.7	564.7	563.1	561.5	559.9	558.4	559.0
17.5°	553.3	552.8	552.3	551.8	551.2	550.2	548.7	547.1	545.6	544.1	544.5
20°	543.0	542.5	542.0	541.4	540.9	539.9	538.3	536.6	535.0	533.4	533.8
22.5°	531.9	531.2	530.5	529.8	529.1	528.0	526.3	524.8	523.2	521.6	522.2
25°	513.8	513.1	512.4	511.6	510.9	509.8	508.3	506.8	505.3	503.8	503.9
27.5°	493.2	492.4	491.7	490.9	490.2	489.1	487.7	486.4	484.9	483.5	483.3
30°	479.5	478.6	477.8	476.9	476.1	474.9	473.5	472.1	470.8	469.4	469.0
32.5°	464.9	464.1	463.3	462.6	461.8	460.7	459.3	457.8	456.4	454.8	454.3
35°	442.1	441.4	440.7	439.9	439.2	438.1	436.6	435.0	433.6	432.1	431.4
37.5°	418.2	417.5	416.8	416.2	415.5	414.3	412.7	411.1	409.5	407.9	407.1
40°	402.4	401.6	400.8	399.9	399.1	397.9	396.3	394.7	393.0	391.5	390.4
42.5°	385.7	385.2	384.7	384.2	383.6	382.4	380.7	378.9	377.2	375.5	374.2
45°	360.9	360.1	359.4	358.7	357.9	356.7	355.0	353.3	351.6	349.9	348.7
47.5°	335.0	334.5	334.0	333.5	333.0	331.9	330.3	328.7	327.2	325.6	324.3
50°	317.4	317.0	316.6	316.1	315.7	314.8	313.3	311.7	310.2	308.8	307.3
52.5°	300.2	299.6	299.1	298.6	298.1	297.1	295.5	294.0	292.4	290.8	289.5
55°	273.0	272.7	272.3	272.0	271.7	270.7	269.2	267.8	266.3	264.8	263.6
57.5°	246.9	246.6	246.2	245.9	245.5	244.6	243.1	241.7	240.1	238.7	237.5
60°	228.9	228.4	227.9	227.3	226.8	225.9	224.5	223.1	221.8	220.4	219.4
62.5°	211.4	211.0	210.5	210.1	209.5	208.6	207.1	205.7	204.2	202.8	201.9
65°	185.0	184.5	183.9	183.4	182.9	182.1	181.0	180.0	178.8	177.8	176.7
67.5°	158.4	157.9	157.4	156.9	156.4	155.7	154.7	153.7	152.7	151.6	150.6
70°	142.0	141.2	140.5	139.8	139.0	138.1	137.3	136.5	135.6	134.8	133.9
72.5°	124.4	123.6	122.9	122.2	121.4	120.7	120.0	119.4	118.7	118.0	117.2
75°	98.5	98.0	97.5	96.8	96.3	95.8	95.3	94.7	94.2	93.7	93.3
77.5°	73.7	73.5	73.2	73.0	72.8	72.4	72.0	71.5	71.0	70.6	70.4
80°	58.8	58.5	58.2	57.9	57.6	57.3	57.1	56.9	56.7	56.5	56.1
82.5°	44.2	44.1	43.9	43.8	43.6	43.5	43.5	43.5	43.4	43.4	43.3
85°	25.9	25.9	25.9	25.9	25.9	25.8	25.4	25.2	25.0	24.8	24.8
87.5°	10.5	10.9	11.4	11.8	12.2	12.5	12.8	13.0	13.3	13.6	13.8
90°	3.0	5.5	8.0	10.4	12.9	15.0	16.8	18.6	20.4	22.2	23.5
92.5°	21.6	24.4	27.2	30.0	32.8	34.9	36.2	37.4	38.7	39.9	40.7
95°	60.5	62.5	64.5	66.6	68.6	70.3	71.9	73.5	75.0	76.6	77.3
97.5°	105.6	107.2	108.9	110.5	112.1	113.8	115.6	117.4	119.4	121.2	122.0
100°	141.1	142.0	142.9	143.8	144.7	146.1	148.1	150.2	152.2	154.2	154.7
102.5°	178.2	178.5	178.9	179.3	179.7	180.8	182.6	184.4	186.2	188.1	188.7
105°	234.9	235.1	235.3	235.5	235.8	236.3	237.2	238.1	239.0	239.9	240.5
107.5°	294.4	294.6	294.9	295.2	295.4	295.6	295.8	295.9	296.0	296.2	296.8
110°	334.7	335.1	335.6	336.0	336.5	336.6	336.6	336.1	335.9	335.7	335.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	376.6	376.7	376.8	376.9	377.0	376.8	376.4	376.0	375.6	375.2	375.1
115°	439.5	439.5	439.5	439.5	439.5	439.3	438.8	438.4	437.9	437.5	437.3
117.5°	498.8	499.0	499.1	499.3	499.5	499.4	499.1	498.8	498.5	498.2	497.4
120°	538.3	539.2	540.1	541.0	541.9	542.0	541.3	540.6	540.0	539.3	538.2
122.5°	579.4	579.8	580.1	580.5	580.8	580.9	580.6	580.2	579.9	579.6	578.9
125°	640.1	640.1	640.1	640.1	640.1	640.0	639.7	639.5	639.2	639.0	638.6
127.5°	695.1	695.8	696.4	697.1	697.8	697.9	697.6	697.2	696.9	696.5	696.1
130°	733.8	734.5	735.2	735.8	736.5	736.8	736.8	736.8	736.8	736.8	736.4
132.5°	773.4	773.9	774.3	774.8	775.3	775.5	775.3	775.1	774.9	774.8	774.3
135°	825.6	826.9	828.2	829.6	830.9	831.6	831.6	831.6	831.6	831.6	831.1
137.5°	882.4	883.0	883.6	884.2	884.9	885.3	885.8	886.2	886.5	886.9	886.3
140°	920.3	920.7	921.2	921.6	922.1	922.3	922.3	922.3	922.3	922.3	922.1
142.5°	954.9	955.4	955.8	956.3	956.7	956.8	956.7	956.5	956.3	956.1	956.1
145°	1002.9	1003.8	1004.7	1005.6	1006.5	1007.0	1007.3	1007.5	1007.7	1007.9	1007.7
147.5°	1050.6	1051.6	1052.7	1053.8	1054.8	1055.3	1055.1	1054.9	1054.7	1054.6	1054.4
150°	1079.5	1080.5	1081.4	1082.3	1083.2	1083.6	1083.6	1083.6	1083.6	1083.6	1083.6
152.5°	1107.0	1107.5	1108.0	1108.6	1109.1	1109.4	1109.6	1109.8	1110.0	1110.1	1110.8
155°	1149.1	1149.1	1149.1	1149.1	1149.1	1149.0	1148.7	1148.5	1148.3	1148.1	1149.0
157.5°	1184.6	1184.2	1183.8	1183.4	1183.0	1182.8	1182.7	1182.7	1182.7	1182.6	1183.3
160°	1205.6	1205.3	1205.1	1204.9	1204.7	1204.5	1204.2	1204.0	1203.8	1203.6	1204.2
162.5°	1224.9	1224.4	1223.8	1223.1	1222.5	1222.1	1221.9	1221.7	1221.5	1221.2	1222.4
165°	1250.9	1250.2	1249.6	1248.9	1248.2	1247.7	1247.2	1246.8	1246.3	1245.9	1247.2
167.5°	1270.9	1269.9	1269.0	1268.1	1267.1	1266.7	1266.7	1266.8	1266.8	1266.9	1268.2
170°	1282.1	1281.0	1279.9	1278.8	1277.7	1277.2	1277.5	1277.7	1277.9	1278.1	1279.5
172.5°	1290.2	1289.3	1288.4	1287.4	1286.5	1286.0	1286.1	1286.1	1286.2	1286.2	1287.7
175°	1301.3	1300.2	1299.1	1298.0	1296.9	1296.2	1296.0	1295.7	1295.5	1295.3	1296.9
177.5°	1304.9	1304.0	1303.1	1302.2	1301.3	1300.9	1300.9	1300.9	1300.9	1300.9	1302.1
180°	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5
2.5°	594.4	595.3	596.1	596.5	596.4	596.3	596.2	596.1
5°	591.3	592.4	593.6	594.0	593.8	593.6	593.4	593.2
7.5°	584.6	585.6	586.5	586.9	586.8	586.6	586.5	586.4
10°	579.2	580.0	580.9	581.2	581.0	580.7	580.5	580.3
12.5°	572.4	573.3	574.3	574.6	574.3	574.0	573.7	573.4
15°	559.6	560.2	560.9	561.0	560.7	560.4	560.1	559.8
17.5°	544.9	545.3	545.7	545.8	545.6	545.4	545.2	545.0
20°	534.1	534.4	534.7	534.8	534.5	534.3	534.1	533.9
22.5°	522.7	523.3	523.9	524.0	523.6	523.2	522.8	522.5
25°	504.0	504.1	504.2	504.1	503.6	503.2	502.8	502.4
27.5°	483.0	482.8	482.5	482.1	481.6	481.1	480.5	480.0
30°	468.6	468.2	467.7	467.3	466.7	466.2	465.6	465.1
32.5°	453.8	453.3	452.8	452.3	451.8	451.2	450.7	450.2
35°	430.6	429.9	429.1	428.5	428.0	427.5	426.9	426.4
37.5°	406.3	405.5	404.7	403.9	403.2	402.5	401.8	401.1
40°	389.4	388.3	387.3	386.5	385.9	385.4	384.9	384.4
42.5°	372.9	371.7	370.5	369.7	369.3	369.0	368.6	368.3
45°	347.6	346.4	345.3	344.5	344.2	343.9	343.6	343.3
47.5°	323.0	321.6	320.3	319.3	318.5	317.7	316.9	316.1
50°	305.8	304.4	302.9	301.7	301.1	300.5	299.8	299.2
52.5°	288.2	286.9	285.6	284.5	283.7	282.9	282.1	281.2
55°	262.3	260.9	259.7	258.7	258.1	257.5	256.8	256.2
57.5°	236.3	235.1	233.9	233.0	232.4	231.8	231.2	230.5
60°	218.4	217.5	216.5	215.8	215.3	214.7	214.2	213.7
62.5°	201.1	200.2	199.2	198.5	198.0	197.5	197.0	196.4
65°	175.7	174.6	173.6	172.8	172.3	171.7	171.2	170.7
67.5°	149.6	148.6	147.5	146.9	146.8	146.6	146.5	146.3
70°	133.1	132.3	131.4	130.8	130.5	130.2	129.9	129.6
72.5°	116.6	115.9	115.2	114.7	114.4	114.1	113.8	113.5
75°	92.8	92.4	92.0	91.7	91.6	91.5	91.4	91.3
77.5°	70.3	70.2	70.1	69.9	69.6	69.3	69.0	68.8
80°	55.9	55.7	55.5	55.4	55.2	55.1	55.0	54.9
82.5°	43.1	43.0	42.9	42.8	42.7	42.5	42.4	42.3
85°	24.8	24.8	24.8	24.8	24.7	24.6	24.4	24.3
87.5°	14.1	14.4	14.6	14.8	14.9	15.0	15.1	15.2
90°	24.8	26.3	27.6	28.5	28.9	29.4	29.8	30.2
92.5°	41.5	42.3	43.1	43.7	43.9	44.2	44.5	44.7
95°	78.0	78.7	79.3	79.7	79.7	79.7	79.7	79.7
97.5°	122.8	123.6	124.4	124.8	124.8	124.8	124.8	124.8
100°	155.1	155.5	156.0	156.2	156.2	156.2	156.2	156.2
102.5°	189.3	190.0	190.6	191.0	191.2	191.4	191.6	191.7
105°	241.3	242.0	242.6	243.3	243.9	244.6	245.3	245.9
107.5°	297.4	298.0	298.6	298.9	298.9	298.8	298.8	298.7
110°	334.8	334.3	333.9	334.0	334.7	335.3	336.0	336.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	375.0	374.9	374.9	374.9	375.0	375.1	375.3	375.4
115°	437.0	436.8	436.6	436.4	436.2	435.9	435.7	435.5
117.5°	496.7	495.8	495.1	494.5	494.0	493.6	493.1	492.7
120°	537.0	535.9	534.8	534.4	534.9	535.3	535.8	536.2
122.5°	578.0	577.3	576.5	575.7	574.9	574.1	573.3	572.5
125°	638.1	637.7	637.2	636.8	636.4	635.9	635.5	635.0
127.5°	695.6	695.2	694.7	694.3	694.0	693.6	693.3	692.9
130°	736.0	735.5	735.1	734.4	733.5	732.6	731.6	730.7
132.5°	773.9	773.4	773.0	772.5	772.1	771.8	771.4	771.1
135°	830.7	830.2	829.8	829.2	828.6	827.9	827.2	826.6
137.5°	885.7	885.0	884.5	884.2	884.4	884.5	884.6	884.8
140°	921.9	921.6	921.4	921.2	921.0	920.7	920.5	920.3
142.5°	956.0	956.0	956.0	955.9	955.9	955.8	955.8	955.7
145°	1007.5	1007.3	1007.0	1006.6	1005.9	1005.3	1004.6	1003.9
147.5°	1054.2	1054.0	1053.8	1053.6	1053.4	1053.2	1053.0	1052.8
150°	1083.6	1083.6	1083.6	1083.5	1083.3	1083.0	1082.8	1082.6
152.5°	1111.3	1111.8	1112.4	1112.4	1111.8	1111.2	1110.5	1109.9
155°	1149.9	1150.7	1151.7	1151.7	1150.7	1149.9	1149.0	1148.1
157.5°	1183.9	1184.6	1185.3	1185.2	1184.5	1183.7	1183.0	1182.1
160°	1204.9	1205.6	1206.2	1206.0	1204.9	1203.8	1202.6	1201.5
162.5°	1223.7	1224.9	1226.1	1226.2	1225.1	1224.0	1222.8	1221.6
165°	1248.6	1249.9	1251.2	1251.4	1250.6	1249.7	1248.8	1247.9
167.5°	1269.5	1270.9	1272.2	1272.2	1270.8	1269.4	1268.0	1266.7
170°	1280.8	1282.1	1283.5	1283.3	1281.8	1280.2	1278.7	1277.1
172.5°	1289.2	1290.7	1292.3	1292.2	1290.7	1289.1	1287.6	1286.0
175°	1298.4	1300.0	1301.5	1301.5	1300.0	1298.4	1296.9	1295.3
177.5°	1303.4	1304.6	1306.0	1305.9	1304.4	1302.9	1301.5	1300.1
180°	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3

(END OF REPORT)